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(See page 55)

OFFICIAL JOURNAL
OF THE CALIFORNIA MEDICAL ASSOCIATION

VOLUME 93 NUMBER 1

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The Best Medical Care

The Public Relations Committee of the California Medical Association recognizes that medical public relations is a reflection of every event in each doctor's office, every action or inaction of each medical society and every public utterance of each doctor speaking officially or unofficially. The importance of good medical public relations has been emphasized repeatedly through the years in various actions of the Council and the House of Delegates of the California Medical Association.

The goal of the medical profession is, through all its activities, including public relations, to achieve and preserve the best medical care for every individual.

MALCOLM S. M. WATTS, *M.D., Chairman*

THERE CAN BE NO DOUBT that the best medical practice and with it the best medical care for patients is now being challenged. The responsibility of the profession is clear. The essential elements of the best medical care must be identified and publicized. They must be preserved and adapted to the modern economic, sociological and political environment. The best in medical care must be constantly improved. So far as is humanly possible, it must be made available to every individual.

The Essential Elements

The best medical care embodies the essential elements of the doctor-patient relationship. These include (1) the need of an individual patient for help with a particular problem, (2) the concern of the doctor with the individual patient, (3) the secure belief of the patient that the physician can and will help and (4) the tool or technology by which the help is given. The best medical care can be rendered only when all these elements are present. Patients are individuals with individual problems. These require recognition by an adequately motivated physician who has the confidence of the patient and the knowledge and wherewithal to solve the problem.

In the Community and the Group

The essential elements of the best medical care also apply at the community or group level in three ways. First, activities at those levels should preserve these elements in professional relationships between doctors and patients. Second, these elements are essential when physicians or their medical associations apply the principles of diagnosis, treatment or prevention to the economic, social or political problems of patients or groups of patients with regard to their medical care. Third, these essential elements can govern the relationship between the medical society and the community which it serves, with organized medicine in the role of "physician" and the community in the role of "patient."

For the Patient and the Public

For the patient and the public the best medical care therefore embodies a recognition of the patient's need either in terms of his physical and emotional condition or of his economic, social or political situation. It insures that the doctor's primary allegiance remains to the patient and that it is not diluted by financial or other responsibilities to collective groups within or without the profession. It provides freedom of action for both doctor and patient, both before and after illness strikes, in order that the patient may derive the physiologic benefit and the psychologic comfort of faith in his medical care. It requires the economic, sociologic and technologic availability of competent physicians, ancillary personnel and of adequate wherewithal for service to the patient.

• Good medical public relations is good performance which is understood and appreciated. This good performance means the best medical care for every individual and a dedication to its constant improvement. This can best be accomplished and understood by making the doctor-patient relationship a living reality in the office, in the community, in the state and in terms of economic, sociological and political problems in medical care. The need of the patient for help must be identified, the doctor's willingness to help must be demonstrated and the patient convinced that the doctor is interested and able to help. Tools and technology must be developed for prevention, treatment and rehabilitation. When these things are done, the good performance will not only be understood but it will be appreciated. Achieving this, the best interest of the patient, the human individual and the voter will be secure, and with them the best interests of medical practice and of the physician.

THE AMERICAN SYSTEM OF FREE ENTERPRISE

The best medical care is inescapably a product and a part of the traditional American system of free enterprise.

Like our way of life, it is vital, dynamic, changing and growing. It must adjust to the American way of life. At present this includes rising costs, deficit financing and the use of prepayment, tax-free and tax funds in medical care. The best medical care has an opportunity to respond to the great urge of almost every American to improve his standard of living. Most Americans will pay more for better cars, better housing, better food or clothing. They will pay the cost of better medical care if they understand it and are convinced of its benefits.

Prudent Research and Experiment

Such vital, growing, better medical care must be subject to prudent research and experiment. Any such experiment should avoid undue risk for the human individual and should preserve the essential elements of the best medical practice. In its experiments in scientific medicine the profession has long accepted this principle. Sociologic and economic experiments should also be assessed in terms of this previously described "best medical care," and in terms of possible abuses of plans, of administrative waste, of overhead and ultimate cost which is eventually met by the consumer—the patient or the potential patient. To satisfy the purchaser, the best medical care plans must provide the patient with some degree of certainty of coverage of costs. For the administrator there must be some predictability and control of costs. For the patient and physician there should be freedom of choice and freedom of action in the management of the individual's problem.

This "best medical care" is a living, dynamic reality which must become understood and appreciated by patients and potential patients. It must be available to every individual who may need it. This is an achievement of and a challenge to the American system of free enterprise.

THE ROOTS OF SOME PROBLEMS IN MEDICAL CARE

Upon reflection, it appears that there are five basic underlying causes of the medical care problems of today which must be considered in any effective program of medical public relations to provide the best medical care for every individual:

1. *The growth of science* has resulted in specialization in medical practice which has extended even beyond the medical profession to include many paramedical technologies and services rendered by many public and private health and welfare agencies. Also, the growth of science has affected the whole of society and has brought everyone into a closer and more interdependent relationship. The medical profession has found it difficult to maintain its position of leadership in some fields of medical care.

2. *Economic changes* have had profound effects. Scientific advances have made medical care more complex and more expensive. The cost of living has risen, the value of the dollar has been lessened, and taxes have greatly increased. The necessary development of prepayment, tax-free and tax funds to spread the growing cost of illness has resulted in great changes in medical practice. These trends may be expected to continue.

3. *Sociologic trends* inherent in our democracy have tended to deemphasize the particular interests of the individual; to make these interests gradually subservient to the principle of the greatest good for the greatest number. However, medical care is a very personal matter and the medical profession is

one of the few important nationally organized groups whose primary concern is with the welfare of the individual as it is distinct from the welfare of the majority.

4. *Political developments* have reflected these scientific, economic and sociologic changes. Public officials increasingly rely upon the advice, counsel and financial support of organizations that represent collective interests. The individual and his individuality have lost sociologic, economic and political force. No organization has given power to the voice of human individuality. Even the courts seem less apt to uphold the right of an individual to be different. The pressures for conformity are seldom neutralized.

5. *The structure of the medical profession* is that of a scientific society. Its strength has been in the development, dissemination and application of scientific knowledge and technique. Its structural organization and system of communications, geared to scientific needs, have proved cumbersome, awkward and inadequate for other purposes. It is only beginning to assert economic, social and political leadership in the interest of the individual patient.

SOME FALLACIOUS CONCEPTS

Several fallacious concepts have been introduced which have had surprisingly wide acceptance and therefore bear upon the problem of medical public relations and the best medical care:

1. Many have come to consider medical care to be simply a product or *commodity* consisting of diagnostic procedures, x-rays, laboratory tests, operations, pills, injections and the like. To them, the best medical care merely requires the application of well-known mass production and mass distribution techniques to this commodity in the best American tradition.

2. Many have come to believe that medical care is in fact a *precise science* which could almost guarantee health for all if it could only be made available to everyone. This fallacy is perilously close to the hopeless search of Ponce de Leon for the Fountain of Youth.

3. Many believe that *medical care should be "free."* Of course it can never be free. It must ultimately be paid for by the consumer. In general, the more complex the system for making it "free," the more costly medical care becomes, for the cost of the *system* must be added to the cost of patient care.

4. It is often assumed that the doctor will work devotedly in the interest of the patient no matter who pays him. This assumes that *doctors are somehow different* from other people. To the extent that a doctor works *for* the government, *for* a union or *for* an insurance company, or *for* anyone other than the patient, his interest in the patient is proportionately reduced. When pools of money for medical care are collected through prepayment, fringe benefits or tax funds the question is seldom asked "whose money is it?" Yet always it should be considered as *held in trust for the medical care of the patients.*

5. It is assumed by many that the *greatest good for the greatest number* and the best in medical care for the individual patient are identical. Upon reflection, this principle is found to apply whenever there is, or may be, great disparity between the numbers of persons in need of medical care and the amount of services that may be available. Thus, it applies in potentially epidemic situations when the public health is endangered, in military medicine, in civilian defense and in certain remote or undeveloped areas where adequate facilities and services are not available. While these "epidemic" needs must be met, they should not be confused with the best medical care for the individual patient in normal circumstances. The average American has received and continues to be entitled to personalized care for his individual needs which may or may not be similar to the problem of others.

6. *"Freedom from"* is often confused with *"freedom to."* The question here is to what extent is the independence of the individual and his right to personal consideration to be sacrificed to dependence upon and interdependence with the greatest good for the greatest number. Medical care is now becoming considered a social necessity along with food, shelter and clothing. Freedom from want has not been confused with freedom to choose food, housing and clothing. Freedom from cost of medical care has been confused with freedom to choose medical care particularly after illness strikes.

SOME PUBLIC RELATIONS GOALS

A program of good medical public relations, to achieve the best medical care for every individual should be directed toward certain goals:

1. *The best in medical care* must become recognized as best for the individual patient. Its essential nature and value must become understood. There must be no compromise with the concept of the greatest good for the greatest number except when this is clearly in the best interests of the individual patient as a stop gap emergency measure. There must be no compromise with the mediocrity which collectivism ultimately engenders.

2. *The doctor-patient relationship* must be made a living reality in the office, hospital, home and at organizational levels. It is a critical distinction between individual and collective medical care. The

interest of the doctor and his profession in the individual patient must be extended to include political, social and economic problems as they pertain to medical care.

3. *Medical science must be placed in perspective* as the tool with which the doctor works and not a commodity to be mass produced and mass distributed. Both its accomplishments and its shortcomings must be made clear.

4. *The best medical care must be available* economically and otherwise to the patient. Where necessary, economic programs must provide him with a degree of certainty of coverage of its cost and retain for him his freedom of choice and freedom of action both before and after he becomes ill. "Freedom to" must be combined with "freedom from" in medical care.

5. *The fractionation of medical practice and medical care must be neutralized.* Efforts must be made to reintegrate generalists and various specialists within the profession, paramedical technologists, public and private health and welfare agencies and sometimes the special interests of departments of public health, into the best medical care for every individual. The medical profession must reaffirm its leadership to insure that all these important and necessary activities be coordinated, guided and assisted by the physician and the medical profession in the interest of individual patients.

6. *Medical societies must become more than scientific associations.* To function in the best interests of the patient and the community they must become effective leaders—"*physicians to the community.*" Their leaders must have the support of an understanding and informed membership. This entails close and effective communications. The morale and enthusiasm of our societies must be high if they are to have unity of purpose and unity of action.

7. *Human individuality in medical care must be supported.* The best medical care is practiced in terms of the individual in its highest professional expression. This essential individuality must be extended and applied in the solution of the economic, sociologic and political problems of medical care. The best medical care must be explained in terms of the individuality of doctor, patient and the relationship between them.

HOW CAN PUBLIC RELATIONS GOALS BE ACHIEVED?

1. *The doctor and his patient.* The basic component of medical public relations is the relationship between the doctor and his patient in the office, in the home and in the hospital. This relationship must be expressed in terms of the best medical care. Programs to strengthen this relationship should be instituted. The practicing physician must train his office assistants and ancillary personnel in basic public relations techniques. He must arrange for adequate coverage of the care of patients during his absence. He must bear in mind that anything he says or does either officially or unofficially is medical public relations.

2. *Services rendered by members of medical societies.* The following services by physicians as members of medical societies are of critical importance:

(a) Adequate doctors and adequate facilities in the community.

(b) 24-hour emergency medical service.

(c) Referral service, adequately publicized.

(d) Public service committees (grievance and mediation committees).

(e) Blood banks and minifilm services, etc., when indicated.

(f) Personal physician program.

(g) Participation in community health and welfare activities as official or unofficial representatives of the medical society.

3. *Medical societies and the public:*

(a) *Press relations* may be cultivated on a personal basis in each community. The press has a responsibility to improve the community and this is a common purpose with the medical profession. To some extent the press moulds, and to some extent it reflects, community opinion.

(b) *Television outlets* have proven to be an excellent means for placing medical science in its proper perspective in the public eye. Radio and television outlets have a recognized public service responsibility to the community. Health education is considered a public service.

(c) *Medical society information services.* These may include professional evaluation of reported medical advances, referral services, information concerning available health and welfare services, etc.

(d) *Speakers bureaus.* Medical societies should encourage their membership to speak and appear in public. The evidence indicates that such appearances do not give rise to unfair competition with colleagues.

4. *Medical societies and ancillary medical groups.* Close sympathetic liaison and effective coordination can be established with office assistants' associations, allied professions, paramedical groups, public and private health and welfare agencies, departments of public health, etc.

5. *Medical societies and medical economics.* Good public relations can be achieved through support of economic programs which respect the individuality of doctors, patients and the relationship between them such as:

(a) Ethical collection agencies.

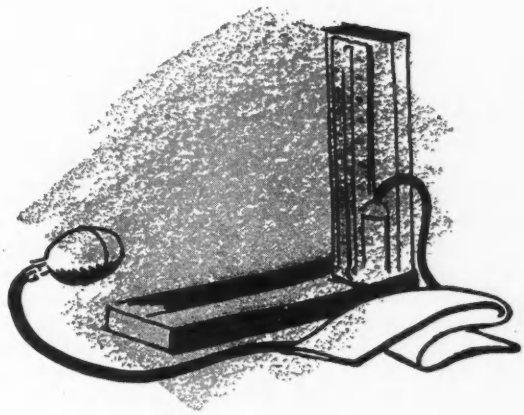
(b) Encouragement and support of any experimental programs in medical care which meet the criteria of the best medical practice.

6. *Medical societies and sociological problems in medical care.* Medical societies, as physicians to the community, can take the lead in many community health problems which, while basically medical in nature, have wide sociological and economic ramifications—problems such as mental health, alcoholism, narcotic addiction, rehabilitation and care of the chronically ill and the aging.

(7) *Medical societies and political problems.* The interest of the medical society in political medical problems can be to uphold the interests of the individual and individuality in medical care in terms of political and legislative activity at the local, state and national level. It is more effective to think and to speak in terms of patient interest than in terms of professional interest. Societies can act through legislative committees, boards of directors and through the individual activity of members. The ultimate source of political power is the voter. The voter is always a patient or potentially a patient.

8. *Medical societies and medical education.* The responsibility of medical societies for medical education is traditional. Educational programs may be directed toward the patient, toward the public and toward the profession itself. Societies may cooperate with ancillary public and private health and welfare agencies in suitable educational programs. Such programs should insure that medical science is presented so that its accomplishments as well as its inadequacies are recognized.

9. *Medical society communications and morale.* To carry out an effective public relations program and play the role of physician to the community, medical societies must develop morale. Members must be proud to belong, be well informed and present a united front in the interest of the patient and the human individual. Leadership must have the support of an understanding and informed membership. This requires close and effective internal communications among leadership, councils, committees and the membership itself.



Serum Amylase in Peptic Gastroduodenal Perforation

A Study to Determine the Significance of Abnormally High Levels

FRANK A. ROGERS, *M.D.*, Whittier

• **Elevated serum amylase is a frequent concomitant of perforated gastroduodenal ulcer. To determine if there might be significant correlation between an increase in amylase and some of the other factors associated with ulcer perforation, a study was made of the clinical records of 1,000 patients with perforation of gastroduodenal ulcers. Sixteen per cent of the patients had amylase levels of 200 Somogyi units or more. This rise in serum amylase comes about in cases of perforated peptic ulcer as a result of peritoneal lymphatic absorption of fluid containing pancreatic enzyme which is spilled through the perforation. Among patients with perforated ulcers and elevated serum amylase levels, the higher the amylase level, the higher the mortality rate.**

The factors of amount of abdominal fluid spill, the duration of the perforation before surgical closure, the size of the perforation, shock and recent ingestion of food were also studied for possible relationship with elevated serum amylase. All appeared to be statistical if not etiological associates of abnormal serum amylase levels.

Because high amylase values so often occur in perforated ulcer, there is no amylase level that can be considered diagnostic of acute pancreatitis.

SINCE THE INTRODUCTION of serum amylase determination as a diagnostic test for acute pancreatitis many additional disorders in which there may be increase in amylase levels have been cited.[8,9,15] It is well known that an abnormal rise in blood amylase may occur in gastroduodenal perforation. The problem of differential diagnosis between perforated peptic ulcer and acute pancreatitis is a commonly recurring one. Observations made while dealing with a group of patients with acute gastroduodenal perforations on whom serum amylase studies were done in the preoperative period are presented here in an effort to clarify the significance of such elevated serum amylase levels. Data were compiled on the relationship of elevated blood amylase levels to the general mortality, the amount of fluid in the abdominal cavity, the time, size and duration of the perforation and the presence of shock among 1,000 patients with perforated ulcer who were treated at the Los Angeles County General Hospital.

Enough experimental work has now been done to clarify the various causes of the increase in serum amylase in several of the clinical disorders in which increase may occur.[4,5,13,14] Some of the clinical conditions other than acute pancreatitis are listed in Table 1. These disorders can generally be classified as (1) primary disease in the pancreas itself; (2) diseases which appear to cause secondary pancreatitis by bringing about interference at the ampullary level; (3) renal insufficiency states; (4) diseases totally unrelated to the pancreas which cause a peripheral enzyme rise primarily by gastrointestinal leak.

In acute pancreatitis, in which enzyme levels are typically elevated, the mechanism of enzyme rise has been studied fairly accurately since pancreatitis can be produced in the laboratory. Egdahl recently contributed to the understanding of the transport of pancreatic fluid in pancreatitis and concluded that the early rise in serum amylase is due to the absorption of enzyme into the pancreatic venous blood as it is liberated from the gland itself and collects first within the capsule. Subsequently lymphatic absorption contributes to the peripheral blood enzyme rise. The peritoneal fluid transudate in clinical pancreatitis has been noted to be extremely high in amylase content. This finding has been used to advocate peritoneal tap in order to help confirm a diagnosis of pancreatitis.[7]

Of more importance clinically are the acute conditions listed in Table 1, D, which are associated with all ranges of serum amylase. All represent usually urgent intra-abdominal disorders that require surgical treatment. Acute gastroduodenal ulcer perforation is of particular interest because it can easily be confused with pancreatitis when serum amylase determinations are high. The mechanism for the production of hyperamylasemia in perforated ulcer appears to be by absorption through peritoneal surfaces of the amylase-rich fluid poured

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into the peritoneal cavity after the perforation. The pancreas itself is entirely passive and unaffected in these cases.

The fact that some patients with acute perforation have high serum amylase content while others do not has been studied by some observers in the past who drew conclusions based on only a few cases.* The large group of cases available for study at the Los Angeles County General Hospital and partially presented here can give a firmer basis for conclusions as to what factors tend to bring about elevated serum amylase levels in this disease.

General Mortality

Nearly two thousand cases with diagnosis of perforated ulcer were studied in order to find a thousand in which perforation was confirmed and in which serum amylase determinations had been done preoperatively. Also required was data on the size and duration of the perforation, the approximate amount of fluid spill, the time of day perforation occurred and the presence or absence of shock.

TABLE 1.—*Clinical Conditions That Are Associated with Elevated Serum Amylase*

A. Primary pancreatic (or salivary) disease	Acute pancreatitis Chronic pancreatitis (acute exacerbation) Pseudocyst of pancreas (mumps—salivary gland inflammation) Penetrating peptic ulcer
B. Conditions that probably produce their effect at the ampullary level	Carcinoma ampulla of Vater Carcinoma head of pancreas Common duct exploration Acute cholecystitis Common duct stone Postsphincterotomy Drug induced (morphine; codeine) Small bowel obstruction (simple; mechanical)
C. Abnormal renal excretion of enzyme	Chronic renal insufficiency Acute reversible renal failure Shock
D. Diseases that produce a gastrointestinal leak or exudate	Perforated peptic ulcer Mesenteric vascular occlusion Small bowel obstruction (strangulated; gangrenous)

TABLE 2.—*Amylase Values in 1,000 Cases of Perforated Peptic Ulcer*

Range (Units)	Cases	Deaths	Mortality Rate (Per Cent)
Up to 200	840	89	10.6
200 to 300	72	18	25.0
300 to 400	48	11	23.0
400 to 600	22	9	41.0
Over 600	18	13	73.3
	1,000	140	

840 (84%) normal amylase, 10.6% mortality
160 (16%) elevated amylase, 32% mortality

*References 1, 2, 3, 6, 10, 11, 17.

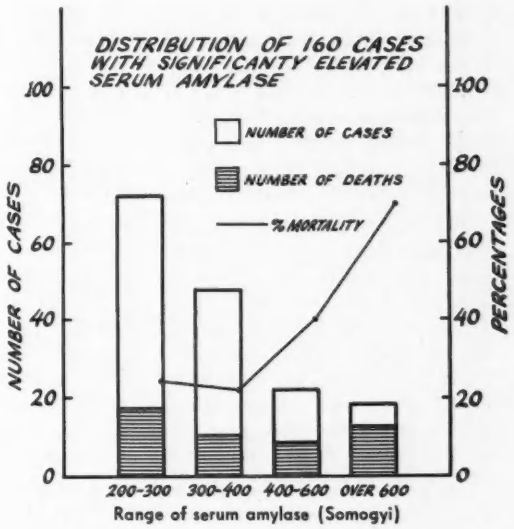

Chart 1.—Mortality rate related to serum amylase concentration.

At the Los Angeles County General Hospital the normal range for amylase in the peripheral blood is considered to be 80-150 units (Somogyi). In this study, in order to avoid inclusion of technical errors, the range of normal was considered to extend to 200 units. In 84 per cent of cases of perforated ulcer there was no abnormal content of serum amylase. The other 16 per cent of the patients had levels of 200 units or above. Eighty-eight patients had levels higher than 300 units and 18 higher than 600 units. These findings are summarized in Table 2, which also indicates the significantly increased mortality rate—32 per cent—in patients who had high serum amylase. The mortality rate for the 840 patients who had essentially normal serum amylase levels was 10.6 per cent.

The incidence of abnormally high amylase values was considerably higher in cases of gastric perforation than in cases of duodenal perforation. The mortality among patients with gastric perforation who had high amylase levels was 48 per cent.

Elevated Serum Amylase and Abdominal "Fluid Spill"

In the early stages after perforation much of the peritoneal fluid found in the abdominal cavity is made up of gastric and duodenal contents that have leaked through the perforation. In the later stages, particularly where there has been a good deal of chemical irritation, a certain amount of peritoneal exudation of fluid may occur to add to the amount of fluid found in the abdominal cavity. Many factors, such as the size and location of the perforation and the amount of fluid further ingested by the

patient before closure of the perforation, affect this total fluid volume. An earlier study of perforated peptic ulcer at this hospital indicated that less than a fourth of patients with perforations that were less than eight hours old had large amounts of peritoneal fluid. Among patients with perforations that were between 16 and 24 hours old, the number with large amounts of peritoneal fluid doubled.[16]

For purposes of analysis, cases in which the amount of fluid spill had been estimated by the surgeon were arbitrarily grouped in the categories *small, moderate, large* and *massive*. In general, the greater the fluid spill, the higher the mortality rate. The mortality in the group with large spill was double that in patients with small or moderate spill. In the group with massive spill, the mortality was 55 per cent. The rates were essentially the same whether the perforation was duodenal or gastric.

High amylase titers and large and massive amounts of abdominal fluid were statistically companionate (Table 3).

TABLE 3.—*Amylase Values in Relation to Amount of Fluid Spill in Perforated Peptic Ulcer*

Abdominal Fluid	Total Cases	Serum Amylase		Per Cent with Elevation
		Normal	Elevated	
Small	358	324	34	9.5
Moderate	327	288	39	11
Large	224	182	42	19
Massive	91	46	45	50
	1,000	840	160	

TABLE 4.—*Amylase Values in Relation to Duration of Perforation in Perforated Peptic Ulcer*

Duration Hours	Total Cases	Normal Amylase	Elevated Amylase	Per Cent with Elevation
0 to 8	347	302	45	14
8 to 16	431	370	61	
16 to 24	106	76	30	24
24 to 48	64	50	14	
Over 48	52	42	10	
	1,000	840	160	

TABLE 5.—*Amylase Values in Relation to Size of Perforation in Perforated Peptic Ulcer*

Size of Perforation	Total Cases	Normal Amylase	Elevated Amylase	Per Cent with Elevation
1 to 3 mm.	324	287	37	11
3 to 5 mm.	266	229	37	14
5 to 7 mm.	60	52	8	14
7 to 10 mm.	96	80	16	17
1 to 2 cm.	125	97	28	22
Over 2 cm.	42	29	13	30
	913	644	263	

Relation of Duration of Perforation to the Serum Amylase

In order to ascertain the influence of the length of time between the occurrence of ulcer perforation and the time of operative closure, arbitrary time divisions were set up and the patients divided into groups with normal serum amylase and those with levels above 200 units. A total of 778 patients had a duration of perforation less than 16 hours. In this group only 14 per cent had high amylase content. In the 222 patients with duration of perforation from 16 hours to over two days, the incidence of abnormally high amylase values increased to 24 per cent. (See Table 4.)

Size of Perforation in Serum Amylase Levels

The size of the perforation has prognostic significance, for the larger the perforation the higher the mortality rate. In cases of perforations over 1 cm. in diameter the mortality rate was approximately three times the rate for all cases of perforation.

A strong correlation of size of ulcer with amount of amylase was noted (Table 5). The correlation was not constant, however; in many cases in which perforations were 1.5 to 2 cm. in diameter, serum amylase levels were within normal limits.

Effect of Recent Ingestion of Food

Pemberton and co-workers[12] showed that perforations occurring in dogs shortly after food ingestion can be associated with the outpouring of duodenal fluid more rich in amylase and thus are more likely to cause an increase in serum amylase. It had been suggested by previous investigators,[10,16] commenting on the elevated serum amylase levels found in gastroduodenal perforation, that the increase was closely associated with recent food ingestion. Precise data were not available in the present study to permit accurate appraisal of the effect of recent eating. However, for purposes of gross comparison, patients in this series were divided into four groups according to the time of day that perforation occurred (Table 6). It was assumed that patients in whom perforation occurred during the daytime hours would probably have taken food more recently than those in whom it happened between 6 p.m. and 6 a.m. The incidence of perforation was higher during the daytime hours, but the incidence of serum amylase elevation was no higher in the daytime than in the nighttime group. This would suggest that food ingestion close to the time of perforation is not necessarily a factor in peripheral amylase rise. The majority of patients with gastroduodenal perforations do not have a rise in amylase levels regardless of this and other factors.

The Relationship of Shock to Amylase

Clear-cut clinical findings of shock of more than transient nature occurred preoperatively in 5 per cent of the patients studied. Included in the shock

TABLE 6.—*Amylase Values in Relation to Time of Day (as a Gauge of Recent Food Intake) in Perforated Peptic Ulcer*

Period of Day	Amylase Below 200 Units		Amylase Over 200 Units	
	No.	Per Cent	No.	Per Cent
6 a.m. to 12 noon	182	84	42	16
12 noon to 6 p.m.	288		47	
6 p.m. to 12 p.m.	209	84	35	16
12 p.m. to 6 a.m.	160		37	
	839		161	

TABLE 7.—*Amylase Values in Relation to Shock in Perforated Peptic Ulcer*

Amylase (Units)	Shock Absent	Shock Present	Per Cent with Shock
Below 200	844	42	55
Above 200	156	31	20

category were patients who had systolic pressure below 80 mm. of mercury and required blood or plasma or both to aid in stabilizing. The majority of them had transient oliguria and many had severe hemorrhage at the time of perforation. Preoperative shock was four times more frequent in the patients with high serum amylase than in those with amylase levels of 200 units or less (Table 7). In many of the patients with shock, the amylase level was well above 200 units—a level higher than might occur with acute renal failure superimposed on chronic renal insufficiency with elevated blood urea nitrogen. The mortality rate in the group with shock was over 50 per cent.

DISCUSSION

Elevated serum amylase levels in gastroduodenal perforations are of significance primarily because they confuse the picture which otherwise might be typical of perforation. Levels above normal may be seen in nearly one of every six patients who have had an open perforation. The size of the perforation, the amount of fluid accumulation within the abdominal cavity, the duration of perforation and the presence or absence of shock all seem to be factors which affect this rise in serum amylase content that occurs in some patients with perforated peptic ulcer. The rise is probably a result of increased liberation of pancreatic secretion into the peritoneal cavity and subsequent lymphatic absorption. Thus, a large amount of fluid and a generalized spill should be important factors in an increase in absorption. This supposition seems to be supported by the correlation in the present study of the higher incidence of elevated amylase in patients with large amounts of fluid and large perforations. The decided increase in mortality rate among patients having high amylase levels associated with perforations gives ominous significance to this combination. This combination is merely coincidental, however, since each of the factors that bring about increase in serum amylase is also a factor in increasing the mortality from perforated ulcer.

The factors of age and sex were not dealt with in detail in this analysis and yet both have potent influences on the outcome after perforation. The older patients frequently reach aid late. This adds factors of long duration, large fluid spill and often shock. In them the ulcers are often larger and often more numerous. Of further interest with regard to elderly patients are problems of severe associated diseases, reduced healing power and often a reduced diagnostic accuracy. The mortality rate associated with perforation of ulcers is twice as high for women as for men.

In the older age groups the diagnosis of perforated ulcer and the ruling out of pancreatitis becomes especially important and often especially difficult. There is no level of serum amylase which can be taken as a sure sign that the patient does not have a perforated peptic ulcer. The well known high incidence of alcoholism among perforated peptic ulcer patients makes it necessary always to keep in mind the possibility of perforation and acute pancreatitis occurring together. No doubt some of the patients studied here had pancreatitis that was not diagnosed, inasmuch as the pancreas is rarely examined during operation for perforation closure.

In cases in which perforation is suspected and serum amylase values are abnormally high but free subphrenic air cannot be demonstrated, the clinician should use other methods to determine whether perforation has occurred. One method of value is roentgen study with intragastric contrast media to search for a leak. Another is peritoneal tap. Typically the fluid from perforated ulcer is cloudy, may be bile-stained and may contain organisms. Fluid in pancreatitis is somewhat clearer and usually slightly serosanguinous. The fluid is almost unvariably alkaline in either case.

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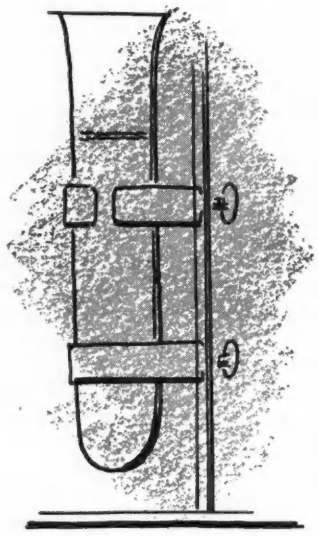

Cantharidin Treatment of Digital and Periungual Warts

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• **Seventy-six digital and periungual warts in 40 patients were treated topically with cantharidin, a potent blistering agent. The material, dissolved in equal parts of acetone and collodion, was applied directly to the warts. Occlusion facilitated blistering. No pretreatment was required. The warts were re-treated at weekly intervals until clinically cured.**

Fifty-six per cent of digital warts and 33 per cent of periungual warts cleared after a single application of cantharidin. Few required more than three treatments. Observation was continued for more than six months in more than half of the cases. Cure was lasting in about 70 per cent of the cases in which the long term result was known.

Cantharidin ranks with liquid nitrogen in effectiveness, but it is painless to apply and does not cause scarring. For these reasons it is especially useful in children.

The main disadvantage is pain and tenderness at the treated site for two to four days in some patients. This can be avoided by careful application of the drug. Occasionally new warts appear at the edge of the cantharidin blister. They are best treated by curettage and desiccation.

CANTHARIDIN, a potent blistering agent extracted from blister beetles, has been advocated for the local therapy of warts.[1] This study was designed to evaluate use of this form of therapy in a dermatologic practice. Preliminary data having suggested cantharidin would be most successful in the treatment of warts on the digits and those under or around the nails, the investigation was concentrated on such lesions.

Forty patients with 76 digital, periungual subungual warts were treated as previously suggested[1] by applying a small amount of 0.7 per cent cantharidin solution in equal parts acetone and flexible collodion* to the surface of the wart. When the solvent evaporated, the area was occluded with a small piece of plastic band-aid tape cut to just cover the wart. Finally, a loose protective bandage was put over the whole area. The patients were seen at weekly intervals and the lesions were debrided and re-treated if necessary. After the last treatment they were asked to return in a month. Further follow-up depended upon the patient. Each was instructed that recurrences may occur with any method of treatment and that what they had received was just another kind of therapy for warts.

Aside from effectiveness, the main points of evaluation were the ease of application and acceptance by the patient.

RESULTS

Complete disappearance of visible warts for three to four weeks is deemed a satisfactory clinical response. The results in this study were:

Type of Wart	No. of Warts	No. Clinically Cleared for 3 to 4 Weeks
Digital	61	57
Periungual and subungual	15	12

A single treatment cleared 32 of the 61 digital warts and 4 of the 12 periungual and subungual warts. The others generally required one or two additional treatments. In a few cases, prolonged therapy seemed indicated. Usually in these cases the warts were periungual, and they slowly but steadily disappeared. In one instance, nine treatments with cantharidin caused a long term cure.

A "long term cure" was defined as clinical clearing lasting 4 to 6 months. In this category the results were:

Type of Wart	No. of Warts	No. with Long Term Cure
Digital	45	32
Periungual and subungual	12	9

The incidence of recurrence appeared somewhat lower than that following most conventional means of therapy, except possibly curettage and desiccation.

Finally, 17 patients who obtained a long term cure were specifically questioned 12 to 18 months later. In this group, there was recurrence of only one of 29 digital warts and no recurrence of nine periungual warts.

DISCUSSION

Cantharidin proved a successful treatment for the types of warts selected. We also obtained good results in plantar warts (9 of 17 clearing) but the procedure was so frequently associated with a dis-

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*Cantharone®, Ingram Pharmaceutical Co., San Francisco.

tressing pain deep in the foot that we stopped using it. Nine plain warts situated on the arms and trunk were not affected by cantharidin treatment; and because of previous advice[1] no mosaic or acuminate warts were treated.

Certain advantages of cantharidin can be cited. It is easily and rapidly applied. No pretreatment is required. The solution effectively spreads under nails and into crevices of the nail fold and proper bandaging on the digits is facilitated. Treatment is well received by the patient. As it is painless at the time of application, children and squeamish adults are at once relieved and rapport is established. Scarring is not a sequela to cantharidin blisters, which are caused by rupture of the intercellular bridges between epidermal cells.[3]

The main disadvantage is pain and tenderness in the treated area coming on after about 24 hours and lasting usually two to four days. This discomfort occurs with all forms of destructive therapy. Although the pain does not occur immediately, it may last longer than after liquid nitrogen application or electrodesiccation. About half of the patients noted some distress. Six felt it was severe, but it was relieved by opening the blister and compressing the area. We learned how to avoid this complication. In the first place, some patients are very sensitive to the action of cantharidin. Within a few hours of application they feel a tingling or burning at the treated site. Normally a large blister will form which can be very annoying, but if the outer protective bandage is removed shortly after symptoms begin, the blister is much smaller, and the pain less. The other cause of painful lesions is use of too much cantharidin. Large amounts of this potent blistering agent are not needed for large succulent warts. A thin film spread over the wart and properly occluded to aid penetration will suffice.

The necessity of retaining the original bandage in place for a few days may present a problem. Patients whose hands are frequently in water find it a hardship. Treating one hand at a time may help.

Another untoward reaction is the recurrence of wart in the bulla margin, forming a doughnut-shaped tumor,[1, 2] which may be quite alarming in appearance. This occurred in two cases, involving two of three treated sites, in the present series. We have adopted curettage and desiccation as routine for the treatment of this unique complication, although it may be controlled by further use of cantharidin.

"Cures" for warts are legion. Psychotherapy works in some cases, and may add to the effectiveness of all therapies. But it is also true that destructive treatment is the most rapid and successful. Liquid nitrogen and curettage and desiccation have become standard methods. Cantharidin is less painful than either of these. It is at least as effective as liquid nitrogen and, generally, is more available. Furthermore, there is no danger of scarring. Perhaps curettage and desiccation is more effective, but it is poorly received by many patients, and it is unselectively destructive. The lytic action of cantharidin does not go beyond the epidermal cells, the site of the wart virus infection. If cantharidin treatment fails, it has done nothing that would prevent the use of other means of therapy.

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Psychic Structure and Function

Some Concepts Useful in Dealing with Patients

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• **Human behavior, "healthy" or "sick," is enormously complex. It is influenced by a great number of variables. The brain is the ultimate organ of psychic structure, and increasing knowledge of the brain should eventually clarify the manner in which various factors do affect our behavior. As yet, however, we do not have an adequate scheme of brain structure and function which we know how to use effectively in the formulation of behavior.**

For theoretical and clinical purposes the psychoanalytic concept of psychic structure and function has been highly useful in interpreting the complex data of behavior and in guiding therapeutic effort. It covers in a comprehensive way the multiple determinants of behavior . . . deriving from biological heritage, states and drives (*id*), the influences of past experience, especially those reflecting the demanding and prohibitive attitudes of parental figures (*superego*), the pressures of external reality and those processes integrating these various influences into adaptive and defensive behavior (*ego*). The psychic structure goes through a long and arduous process of development. Uneven development with weakness, rigidity and lack of integration is manifest in psychopathologic states. Psychological health is present to the extent that there is balanced development of the psychic structures favorable to growth, development and stability. In the presence of psychopathologic change, the therapeutic task is to restore or develop strength, flexibility and coordination of the psychic structures to a level at which they are capable of dealing with reality.

A PHYSICIAN'S ATTEMPT to help an emotionally disturbed person will be more effective if it is based on a recognition of the complexity of human behavior, a knowledge of psychic structure and function, some understanding of psychopathology and a general idea about psychological health. These topics will be discussed in order, the second in detail because it is most basic.

COMPLEXITY OF HUMAN BEHAVIOR

Human behavior is enormously complex. Any psychological event can be shown to have multiple determinants in the present, the past and the anticipated future. Nothing an individual feels, thinks or does can be wholly understood in terms of any simple influence. Behavior is the resultant of converging influences from within the individual and from the external world. Within him are his biological needs: his needs for food, shelter, warmth, human contact, activity and rest, sexual gratification, and reproduction. There are the guiding and restraining influences of his habits, memories, concepts, expectations, wishes and fears. Finally, everyone is affected in some way by people, things, places and conditions surrounding him—by the culture to which he belongs. Such complexities make understandable the many different ways of looking at an individual's psychology.

As physicians we are interested in health and disease. Our interest requires us to be realistic, to avoid oversimplification and yet not be overwhelmed by the complexity of the problems that face us. Nor do we want to render ourselves ineffective by looking away from emotional problems. In the presence of such complex phenomena, how can we as physicians come to any agreement on what is important—on what is healthy and what is not? Or even granted that something is wrong with one's self or his patient, how can we predict what would be better? How can we bring about a desired change? Where in the vast array of facts can we focus our attention and efforts to achieve understanding and deal effectively with emotional problems? Can it be done at all?

With qualifications, the answer is *yes*. But how are we to recognize what things are most central and important, and then to direct our efforts toward them?

A fact that we can all observe in ourselves may simplify our efforts to understand and deal effectively with an individual's behavior. The fact is this: *The individual's behavior always bears the imprint of the individual's own characteristics.* It may or may not be significantly shaped by the situation to which he is reacting. Given the same situation, one person may be overwhelmed, another may be paralyzed, and a third may be challenged to effective effort. Each person reacts with his own psyche in

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accordance with its characteristics of strength and coordination. His psyche is a constant central factor in his behavior; whereas all other factors, however important, vary in significance and affect his emotions and behavior only as they act upon and through his psyche.

This concept of the psyche as a constant central factor in behavior is the crucial starting point of modern dynamic psychiatry. It provides the basis upon which, out of the vast and otherwise bewildering array of facts about human behavior, we can organize our understanding and efforts.

PSYCHIC STRUCTURE AND FUNCTION

The psyche, by way of its underlying organ, the brain, is governed by its own operating principles. It is influenced by conditions within the body as well as complex configurations of phenomena in the outside world. These can be traced in the slow process of development.

Development from undifferentiated state. At birth the individual's psychic functions exist in an extremely rudimentary state—for example, the infant's chaotic mass reactions to any stimulus; and his lack of control over muscular movements, sphincter action, perception. The very sounds he makes are the same for all normal babies, to begin with. Only later do his speech sounds narrow down to those used by people about him. The child's electroencephalogram further reflects lack of differentiation, and years of development are necessary before it resembles that of the adult, except in sleep.

Differentiation of the child's psyche—a slow process, much of which takes place during the first five years—develops as a product of the child's activity, his inner feelings and outer stimuli. Inner feelings are hunger, pain, bladder and bowel pressure, fatigue, sleepiness and the like. The important outer stimuli are the human beings and objects with which the infant becomes familiar.

Differentiation, of course, proceeds gradually and in stages. The achievements and failures of one stage influence the later ones. Relatively organized activity is first centered around the mouth. Subsequently, controlling activity develops with respect to the bowels and bladder, walking, talking, establishment of human relationships, and awakening of primitive unorganized sexual activity. Not in all the rest of his life does an individual have to learn so many basic skills in so short a period as he must within the first five years.

This course of differentiation is never a smooth one. Inevitably the child will suffer conflict; the sources may be internal or external. Inner conflicts arise from opposing desires within himself; conflicts may also arise around the objects and people of his environment as they oppose his desires. These conflicts and the manner in which the child learns to manage them, significantly influence the course of his development. They provide the basis upon which to develop strength and coordination. But if difficult conflicts confront him before he has developed the strength to handle them, he may be overwhelmed by them and his psychological development may be retarded. Fixation may occur in each stage around the specific modes of thinking, feeling and acting that characterize it, when an individual fails or is so frustrated that it is difficult to develop further. Fixation may also occur with gratification so excessive as to lessen the impetus to move on.

These considerations about development point up some sources of individual differences. Every individual is born with his own hereditary traits and is exposed to different life experiences. The differences may be subtle and seemingly trivial to the adult observer but profoundly significant for the child. Not only do experiences differ, but the timing of important ones varies for each individual. Thus the effect of an experience upon a child is related not only to the characteristics of that experience, but, just as importantly, to his stage of development when he first has the experience.

As the child develops, then, the strengths and weaknesses and outlines of his personality begin to take form and shape in relationship to his early experiences, their timing, and his reactions to them. They tend to set the direction, limitations and potentialities of his mind and emotions for the rest of his life. We remember the stanza by Walter de la Mare which refers to the body but applies equally to the psyche.

> *"It's a very odd thing,*
> *As odd as can be*
> *That whatever Miss T. eats*
> *Turns into Miss T."*

Psychic structure. Although the organ of the psyche is almost certainly the brain, no simple comprehensive schema of it has been evolved as a basis to formulate total individual behavior. An unanatomical type of schema—which developed out of the experience of psychoanalysis—represents four major categories of functions and forces that help determine behavior, symbolized as id, superego, ego and external reality. It can be extremely useful for clinical purposes.

The *id* symbolizes those processes and influences that come from the biological characteristics of the individual—his needs for oxygen, food, warmth, stimulation and sex. These biological drives press actively for gratification and discharge, or may lie relatively quiescent. Often they conflict severely with the superego and with the conditions of external reality.

The *superego* represents the imprint of parental and other influences of early childhood; those that have been most intense, prolonged, and repeated, usually in the context of conflict with the parent over parental demands, restrictions and criticisms. The superego therefore represents the imprint of the most severe, hostile and relentless attitudes of the parent, and may actually be a severe distortion of what the parents were in reality. It comes to serve as a parental surrogate. A powerful superego is manifest in the adult when an individual is overwhelmed repeatedly by a compulsion to please; by ever-present feelings of guilt and inadequacy, despite all realistic considerations.

External reality is enormously complex. With its opportunities, limitations and dangers, it poses for the individual the necessity of complex ever-continuing adjustments if he is to find satisfaction and preserve himself.

The *ego* consists of those functions which, with various degrees of success, reconcile the many pressures coming from the id, superego and reality. Obviously, the stronger the ego functions, the more readily the ego can accomplish its tasks. Inordinate pressures from the id, from the superego or from external reality may render the task of the ego extremely difficult; and it may be overwhelmed, as in psychosis. A person's capacity for growth, development, self-preservation and gratification will depend largely upon the strength of his ego functions.

Ego functions. Some of the elemental ego functions—perception, memory, association, motility—are very complex and interdependent. What one sees, for instance, is influenced by what he remembers, wishes, anticipates and by his concepts as well as by his motor activity. What he thinks is supplied by perceptual data, memory; and is directed by his wishes, tested and reinforced by his motility. Here, a few words about perception and motility, functions essential to human contact and communication, must suffice.

Perceptual activity—responsive in various degrees to sensory phenomena and to ideational and affective phenomena—has three facets. We perceive the external world, our thoughts, and our feelings. All perceptual activity is important in the orientation and direction of the psychic apparatus, but sensory perception is particularly important to the individual both for orientation and the nonspecific excitation which it provides. Its determinants include not only the intensity and quality of the stimulus, but also the individual's physiological status, motility and ideational processes. An objective measure is not easy; but even casual observation discloses individual differences in the quality and intensity of what is seen. Every individual has patterns of perceptual activity highly characteristic for himself. Further it is significant that people vary in their ability to differentiate their perceptions of what is internal, what external. For instance, a psychotic patient may have very great difficulty in differentiating between what he sees and what he thinks. All of us can probably recall dreams vivid enough to give the illusion of "being real."

Motility, as determined in the psychic apparatus, is directed toward the skeletal musculature, visceral and vasomotor systems, and toward the speech apparatus. Motility is an essential function in perception, nutrition and communication, and in the discharge of central excitation. If it is blocked, ideations and affective reactions usually increase, at least for a time.

Complex ego functions. The elemental ego functions are never seen in pure form. Rather, they exist in combinations of varied complexity and composition. Judgment and intelligence are examples of the many such complex functions, and they will reflect any deficiency in the more elemental ego functions.

The complex ego functions may be considered as adaptive and defensive. Adaptive reactions must be flexible and easily accessible to consciousness if they are to meet suitably the ever-changing conditions of internal and external reality. Defensive reactions, on the other hand, take place automatically and outside of awareness. Originally specific for repeated and intense traumatic situations, they become persistent and reactive to more or less nonspecific situations. They diminish awareness of influences from the id, the superego and the external world, but thereby use up psychic energy and so reduce the energy available for more constructive functions. The major defenses include repression, displacement, reaction formation, projection, denial, isolation, avoidance.

To give a simple illustration: The individual faced with a difficult, disturbing task may tend, even without being aware of doing so, to close his eyes to it. He may avoid it in different ways: by turning his attention to something else, or by convincing himself that the task is someone else's responsibility. But the avoidance, besides costing considerable expenditure of energy, will prevent satisfactory performance of the task and the skill and mastery to be derived from the experience.

OPERATING PRINCIPLES AND CONDITIONS OF MENTAL FUNCTIONING

The psychic structure is influenced by multiple determinants. Among these are objects, people and events of external reality, but they are never sole influences.

The psychic apparatus works as a whole. Complexes of functions may act in concert with one another, or they may conflict with one another. The

various ego functions are subject to inhibition as well as to excitation. Optimal operation of any function occurs in a range that will be determined by the level of other activities; on either side of this range there will be a breakdown in the efficiency of the function.

The strength, coordination, and flexibility of the ego functions depend upon continued reinforcement and activity. In the absence of supply and activity, in the presence of obstructions, such as the defense processes, there will be a corresponding loss of strength, coordination and flexibility.

A concept of energy is indispensable for understanding psychological functions. Implicit in the observation of the psyche's capacity to scan, focus, displace, project, and so on, is the concept of energy. Casual observation shows that individuals vary greatly in the efficiency and economy with which psychic energy is utilized. All the defense functions use up energy in highly wasteful inner conflicts.

Conscious and unconscious processes. Any adequate attempt to understand behavior requires a consideration of unconscious processes. An individual can be aware of only a few of the multiple influences that determine his behavior. Broadly speaking, three categories of more or less unconscious activity influence all aspects of behavior.

One category consists of *biological events* which never have direct access to consciousness. We cannot, for instance, be directly aware of the chemical changes that take place in the retina upon exposure to light, but only aware of the effects of such changes. Biological drives, by and large, are experienced in terms of affect, thought, sensation. They are experienced in consciousness only in derivative form.

Mental events occurring outside the focus of attention may not appear in consciousness, but may have ready access to it. These are said to be *preconscious.* Access to consciousness is likely if the charge of excitation carried by an event increases or if the event links with something in consciousness.

Repressed unconscious. From the standpoint of psychopathology and psychotherapy, the most important category of unconscious activity is the so-called *repressed unconscious,* whose processes may be thought of as primary and secondary. Primary repression occurs almost always in childhood, associated with a series of traumatic events. The traumatic events are associated with extreme degrees of excitation, favoring a kind of short-circuiting in the psychic apparatus that by-passes the perceptual system. The excitatory impulses are diverted from the specific areas of the perceptual system related to their sensory origin and are short-circuited to other parts of the perceptual system or to various parts of the motility systems. The clinical manifestation will depend upon what part of the perceptual system is by-passed and to which systems the impulses are diverted. When a short-circuit of this sort becomes persistent, conditions are favorable to *secondary repression.* Any later event resembling that which brought about the primal repression is likely to be similarly short-circuited. If so, the repression will be manifest in blind spots and in various qualities of motor activity which cannot be adequately understood in terms of the perceptual system content.

The experiences of feeling, thought and fact that are liable to bring a child into conflict and thus arouse excitation beyond what he can readily assimilate are those pertaining to sexuality and aggressiveness. To a large extent, then, the content of the repressed unconscious is most likely to pertain to sex or aggressiveness, and experiences having to do with sex or aggressiveness are likely to be short-circuited or repressed into the unconscious of the adult as well as of the child. Being unconscious, they remain inaccessible to awareness and modification. They retain an almost autonomous control over certain aspects of the perceptual, motor and mental systems.

When such phenomena gain partial access to consciousness, they are experienced as extremely threatening. The defenses set up to keep them out of consciousness consume energy, and psychic functioning is weakened and distorted. Repression provides the basis for displacement, undue emphasis, projection and many other distortions. The total result is constriction and limitation involving the entire personality.

Continuity and repetition in human behavior. "Man is a creature of habit." Some repetitiveness and constancy are readily evident in the behavior of every individual. A greater degree is apparent when one looks closely at what the individual himself brings in the form of feelings, thoughts and actions to any situation he meets.

Probably many factors contribute to repetitive behavior. It is rooted in biology. Unconscious processes, being inaccessible to change and modification under the influence of perceptual processes, tend to become repetitive. Often repeated experiences leave deeply ingrained memory processes which will be repetitive when activated. Repetitive experience, in turn, tends to become unconscious and inaccessible to modification.

Repetitive behavior is neither good nor bad, *per se.* It may help provide the basis for economic expenditure of energy. On the other hand, it is often deleterious and destructive, especially when it occurs irrespective of the individual's needs or the demands of reality, and thereby precludes his flexible adjust-

ment to the changing demands of the outer and inner worlds.

Repetitive and constant behavior, especially when it is of such a character as to be deleterious and destructive to the individual, presents the most formidable problems facing any attempt at psychotherapy. It is inaccessible to logic and persuasion. The individual clings to it despite all the resultant damage and suffering. Experience indicates that repetitive behavior, like posture, can be modified only with prolonged, tedious, appropriately designed hard work.

As explained, the patterns of feeling, thought and action established in childhood and reinforced through the later years, acquire the greatest persistence. They affect behavior, but being unconscious they remain unmodified by experience. Thus they always exert some continuing influence on the individual. If the individual is active and awake, their influence may be minimal. But if the external situation is relatively unchanging or resembles those situations which led to the original development of the deeply ingrained repetitive patterns, thus reinforcing them, it will become a dominant influence over the individual's behavior. He will then display many aspects of behavior which characterized him as a child. Here we have the basis for what is termed the "transference reaction."

The transference reaction is one in which the individual transfers onto someone in the present the feelings and guardedness he originally felt toward important persons in his childhood. A person may have many different transference reactions. They may be experienced in reference to the same and different persons.

The transference reaction may emerge into especial prominence in any long-continued relationship between two individuals characterized by some dependency of one upon the other. Thus it is especially likely to develop in the long-continued physician-patient relationship, in which the relative helplessness and dependency of the patient resembles situations in his childhood with important adults. Although the physician's position is somewhat different, he, too, may begin to experience feelings toward the patient similar to those he felt toward important persons in his childhood.

The transference reaction represents an aspect of the "repetition compulsion." Because it stems from experience and attitudes of the past and exists quite separately from current reality, it is fundamentally unrealistic and irrational. Yet the fact that it is experienced in terms of current reality may obscure its real nature. Therefore at all times in the physician-patient relationship, it is important to consider that the unrealistic, irrational loves, hates, demands, disappointments and magical expectations have a transference origin. By learning to recognize them as such, one can avoid reacting to them as if they were currently realistic. To react otherwise is to reinforce regression and thereby promote a further return into childhood with the associated deterioration of psychological function. A favorite precept in psychiatry is "No collusion with delusion."

PSYCHOPATHOLOGY

Besides the concept of psychic structure and function, the two groups of phenomena essential to any formulation of psychopathology are psychic trauma and anxiety.

Psychic trauma may be roughly defined as any shift of excitation in amount or quality which is beyond the ego's capacity to assimilate and master. Such change in quantity or configuration of excitation may result from external or internal stimulation or withdrawal of stimulation. Psychic trauma represents an effect of a change upon the ego. The traumatic quality is not a property of either ego or stimulus but of their interaction. A weak ego is constantly subject to trauma, no matter how minimal the disturbing influence. A strong ego may be traumatized only by more severe disruptions. A person with a weak ego may be overwhelmed by a situation, whereas an individual with a stronger ego may be able to utilize the same situation in an aggressive, constructive manner.

Anxiety represents a disturbance in the distribution and equilibrium of psychic energy. Every living being always has some anxiety, which represents the innate instability of living matter. Anxiety of appropriate degrees forms the basis for motivation and striving. Too much anxiety represents more profound dislocations and may be accompanied by varied degrees of functional deterioration. Anxiety that results from instability and change often signals psychic trauma.

A psychopathologic state, considered in terms of structure and function of the psychic apparatus and its various principles and conditions, can be described as any state wherein the strength, coordination and flexibility of ego functions are insufficient to reconcile the demands of id, superego and external reality. The essence of psychopathology lies in the conflict arising between various demands of the id, superego and reality, and in the relative weakness of ego functions. Sometimes these inadequacies of ego functions may result from exhaustion. More often they are a result of defective development. Fixations, inactivity and dominance of defensive activity all interfere with healthy development.

A psychopathologic state may be acute or chronic. It may represent the reaction of the ego when it has been exposed to extreme stress, before it has

been able to reestablish its equilibrium. More often than not, what appears to be acute psychopathologic change represents a relatively weak ego unable to meet new demands placed upon it. If the individual has led a relatively quiet or secluded existence, the strength of his ego may never have been tested, its weaknesses never disclosed.

The complicated psychic apparatus offers many potential sites of psychopathologic development. Weakness or lack of organization anywhere will affect the entire individual. The particular clinical manifestations depend upon the structures and functions most severely involved. The variations of psychopathologic change are as numerous as are individuals.

PSYCHOLOGICAL HEALTH

Now for a brief statement about psychological health. Remember that the psychic structure and its functions are numerous and complicated, go through a long period of development and are influenced by a great number of factors. It is little wonder that fixations, conflicts, weakness and other unevennesses develop in each of us. It is more to be wondered how we come out as well as we do.

Perhaps we can draw from other medical experience and regard psychological health as that state of an individual in which his psychic structures and functions have developed the degree of strength, flexibility and coordination required for acting in concert with one another; and they do so. Once achieved, such a state of health must be maintained by adequate supplies and varied activity.

To the degree that such health is achieved and maintained, the individual can enjoy a sense of well-being and a high degree of effectiveness in living and working and playing with other people.

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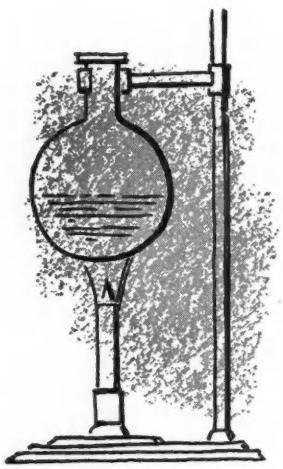

The Psychotherapeutic Approach to Emotional Problems

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• **Physicians are confronted with more and more psychological problems in their daily practice. Not only must a physician be able to recognize the problems, he must also be prepared to treat a certain number of them. Some of the patients will improve just because of a good relationship with the physician. Others will require more definitive, yet comparatively simple, psychotherapy. On the other hand, some patients with clear-cut emotional problems are best treated by the physician's traditional medical approach rather than by some type of "formal" psychotherapy. In some circumstances psychotherapeutic efforts may be damaging.**

MOST CONSCIENTIOUS PHYSICIANS probably come to recognize sooner or later that a sizable portion of their practice, perhaps as high as 40 to 60 per cent of it, is made up of psychological problems and complaints either emotional in origin or complicated by emotional conflict. For many patients, referral to a psychiatrist is not feasible, either medically or economically. Psychiatric care is expensive, hard to obtain and often does not get the expected results. Some patients will go to a psychiatrist only under duress, and others should go only for evaluation. Yet for the physician to handle these emotional conditions by himself is often most frustrating. He may not have the inclination or the confidence to do so. But today most physicians, irrespective of their preferences, have to do psychotherapy—for better or worse.

Each physician evolves, by experience, ways of dealing with emotionally complicated cases, the way depending on the case in question and the physician's own personality, bias, conflicts and needs. Not proposing that all physicians suddenly become skilled psychotherapists, I would, however, reemphasize a healthy respect for the complexities of the human mind and personality. Major psychological problems and major personality changes must be left to the thoroughly trained psychotherapist. But I want to spell out the kinds of psychotherapy that physicians in general may comfortably do (and are doubtless doing) and the tools available for psychotherapy in medical practice, along with some of the limitations.

What is psychotherapy? The following definition comes from Wolberg[2]: "Psychotherapy is a form of *treatment* for *problems* of an *emotional* nature, in which a *trained* person *deliberately* establishes a *professional* relationship with a patient for the purpose of *modifying* or *influencing* that problem in a *positive* way." The italicized elements in this definition point up factors in the concept of psychotherapy.

The essence of psychotherapy is in the physician-patient relationship, whose essential currency of exchange is "talk." The physician talks to the patient, and the patient talks to the physician. As a rule the patient does much more of the talking; and this seems to enhance the therapeutic value of the interchange. But how does psychotherapy work? What makes it operate? How can talking make the patient feel better?

Each of us has experienced the benefits of talking, objectively as a professional listener, and subjectively as a human being who has "gotten it off his chest." Numerous anecdotes involve some patient who talks and talks and talks for time without end, never letting the physician edge in a word, and then ends his monologue with obvious relief and gratitude. He tells you how much better he feels, how you have made him feel better; and he is quite correct. No doubt he will tell his friends what a brilliant physician you are; how you were immediately able to find out what his trouble was and to treat him for it. But this is no constant, universal phenomenon. It does not happen with everyone, every time. Part of this beneficial result—this "feeling better"—relates to just having a listener who acts as if what is said is important. Part is due to the transference element in the patient-physician relationship in psychotherapy.

THE TRANSFERENCE IN PSYCHOTHERAPY

A patient who comes to a physician has already transferred to the physician certain attitudes and feelings from his past life, from previous experiences and relations with significant people. The patient sees the physician in various terms—not just what the physician is and does here and now, but how he, the patient, is related to other physicians,

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perhaps those from his childhood, with childhood's fears of physicians, sickness and pain; and how he, the patient, is related to such other authority figures as father, mother, grandparents, teachers, older brothers and sisters, playmates, corner policemen, and so on. That is, the patient's experiences with all these figures influence and distort his image of the current physician, with whom he tends to act not as he is now, but as he was then in relation to these significant figures. He will see himself not as a mature, responsible adult, but as a frightened, bewildered child. He will expect the same kind of magic he expected from his mother, who omnipotently kissed away the hurt of the bruised hand. He will look for the same kind of censure and punishment from the physician that he anticipated from his father when he had done wrong, for many an adult patient who appears quite logical, unconsciously thinks of his illness as evidence of some transgression or punishment for a transgression. Thus much of the power in the patient-physician relationship springs from a preformed transference with which the patient enters the physician's consulting room.

Think for a moment of the uniqueness of the physician's relationship with a patient. We examine him, take a history, do some laboratory tests, order some x-ray studies, and then announce that next Thursday he must have a portion of his stomach removed. So this patient reports to the hospital and docilely permits us to cut open his abdomen and remove a portion of his vital organs. Truly this sounds like the irrational behavior of a helpless, frightened child, blindly following the dictates of a mother who promises that everything "is going to be all right."

This is the power of the transference. Although it can be abused, it can also be used for constructive therapeutic purposes. Because of its nature, the patient looks for many things in the physician's office. And usually he finds there the particular thing he needs. As Anna Freud recently pointed out, the patient chooses from the "bill of fare" whatever he wants, and this choice may involve little of what the physician feels he is providing. These "transference gratifications" may be extremely helpful, therapeutic and reassuring. They may not be curative in the sense of abolishing unconscious conflicts, but unquestionably they help a patient in need. A few clinical examples may illustrate this basic point.

Some patients are comfortable only with a physician who is obviously concerned. To them the calm, detached, casual physician is intolerable. For example, consider a patient whose mother was attentive to his needs only when he was sick, but otherwise tended to ignore and neglect him. To his physicians therefore, he unconsciously exaggerated and dramatized his symptoms. When the physician responded with concern, the patient was content and satisfied; he then felt safe and protected. If he could not evoke such a response, he became anxious and angry—and usually sought another physician. It is clear that the family physician who referred this patient for psychiatric care was handling the case in a helpful, constructive way by showing proper concern and solicitude. This physician's attitude was therapeutic, even though he did not explore or attempt to discuss the nature or the background of the patient's psychological problems and behavior. He could intuitively utilize the patient's problems and effect a transference cure by permitting a good deal of gratification in this transference.

My second example involves a kind of psychotherapeutic benefit often unrecognized: The patient gets better because he has proved that the physician is really no good. A young woman went from doctor to doctor with two groups of symptoms. One group had to do with feelings of anxiety and tension, the other with a wide variety of somatic complaints that varied with the time and the physician. Although her psychological symptoms disturbed her most, she could manage to direct her physician's attention to an endless array of somatic complaints. The examinations produced no tangible results; the cause of her complaints could not be definitely established. Once the doctor would admit that he could do nothing more, the patient miraculously changed. Her tensions disappeared; she was resigned, no longer concerned about her symptoms; and for a period of several years she would enjoy relatively good health, until the old cycle started all over again.

Evidently this woman's unconscious need to prove her parents wrong was transferred onto the physicians. When she could demonstrate that they were unable to help her, and could get them to admit that they were unable, then this underlying wish was gratified, and a marked degree of symptomatic improvement occurred.

These clinical vignettes have several things in common: The patients improved; they were dealt with by physicians other than a psychiatrist; the improvement was not because of any probing by the physician or uncovering of any of the patient's childhood conflicts or broadening of the patient's understanding. These patients got better because some particular childhood need was gratified in the transference. What we may call "silent transference cures" are thus effected without the physician's active intervention. The physician offers the patient not interpretations or suggestions, but himself as an object from the past and permits himself to be so used by the patient's Unconscious.

But silent psychotherapy will not meet the needs of all patients. For those whose needs are not thus

met, certain techniques of psychotherapy are available; and these I have deliberately condensed and simplified from Bibring's classic article, "Psychoanalysis and the Dynamic Psychotherapies."[1] The five basic technical principles used by the psychotherapist in his work with patients, although not sharply differentiated in practice, are best discussed as discrete rather than as overlapping principles. These techniques are: (1) suggestion; (2) abreaction; (3) manipulation; (4) clarification; (5) interpretation.

Suggestion refers to the induction by the therapist of various ideas, thoughts and feelings in the patient, not on the basis of the patient's logical or critical acceptance of these ideas, thoughts or feelings, but rather through the therapist's authoritative position. Suggestion, usually in conjunction with other techniques, obviously exploits the transference aspects of the physician-patient relationship and has the drawback that its benefits rarely outlast the relationship between the physician and the patient. We use suggestion to encourage the patient to face his problems, to tolerate pain and anxiety, to see his own irrational behavior. We may apply suggestion directly to overcoming specific symptoms. Telling a patient that he will be able to handle a particularly difficult life situation is also suggesting that he ought to handle it in a particular way. Almost we command him to do so, and the patient often experiences the remarks in precisely this way.

Abreaction refers to the discharge of certain emotional pressures and tensions. It is an integral part of the patient's talking to us—a kind of catharsis we encourage. The goal is the relief of emotional pressure and tension, so that the patient may be better able to handle the problems behind the pressure. In acute traumatic situations, abreaction may be extremely effective and of sufficient value to to bring about improvement or cure. For instance, certain hysterical patients come "all wrought up" because of tension mobilized by a particular situation or conflict. The opportunity for them to ventilate their feelings reduces the pressure and may produce a reasonable psychological equilibrium. Without eliminating the basic conflict, this device does help the patient regain a functioning level—a gain not to be disparaged.

Manipulation, to Bibring, means utilizing the various "emotional systems" in the patient to promote therapeutic change. The use of "emotional systems" existing in the patient involves not only the positive transference of patient to physician, but depends largely on the physician's recognizing a specific emotional problem in the patient and so reacting as to be therapeutically beneficial and to produce some psychological shift in the patient. Running a patient's life and using such manipulations as advice and guidance are dismissed as "crude."

A somewhat hypothetical case illustrates this point. A man who is tense, with some mild somatization reactions, quickly makes plain that he is involved in a struggle with an authoritative employer. You find that he has always had difficulty with authority figures, toward whom he habitually behaves in a most submissive way—a pattern that produces shame and anger, which in turn cause some anxiety and somatization. These all relate to his earliest experiences with his father and are the main elements of a clinical situation with which physicians must cope almost daily.

One therapeutic device that can be brought to bear is a specific kind of manipulation—not the crude manipulation of telling the patient to change jobs, to seek out some mild-mannered employer whom he could flout with impunity. I have in mind something more ambitious and yet not outside the province of physicians. The physician in his dealings with this patient can demonstrate that there are alternate ways of reacting to an authority figure other than that of blind submission. The physician can encourage the patient to discuss things freely, to ask questions, to disagree, to speak his mind, even to assert himself. This may produce a change in the patient through the rearrangement of some of his psychological patterns and permit him to handle situations with authority figures much more constructively. Although related to what I earlier called "silent transference cure," it differs in that this kind of manipulation depends on the physician's actually behaving and acting in a specific way and treating his patient in a specific manner, and not just on those fantasies that the patient has about the physician.

Clearly this mechanism will be more effective when combined with the technique of clarification. That is, explaining the patient's behavior and some of the more obvious sources of his problem will enlarge the chances for effecting a positive result.

Clarification, along with the technique of interpretation, is a device intended to produce insight in the patient. *Interpretation* aims at making conscious what is unconscious. Together they aim at extending the area of the patient's self-awareness and self-understanding. Clarification, basically, helps the patient to see things more clearly and to understand his fears, conflicts, patterns of behavior and relationships with other people. Material of which the patient has already become aware is clarified, organized and interrelated. The vague and remote material is brought to his acute attention, with the expectation that he will have better control of his feelings and thoughts, will achieve some feeling

of mastery over his conflicts, and can better utilize his conscious psychological resources.

Thus we may point out to our hypothetical patient that his tension is related to the anger he feels when he has to submit to his employer's demands that he considers unreasonable. To a young woman who constantly becomes involved in unhealthy and unsatisfactory sexual situations we point out that her so-called sexual compliance is related to her need for love and affection. Or a hot-headed young man may come to see that his angry explosions always occur in relation to his own feelings of guilt which he displaces onto another person or object. These are superficial, uncomplicated examples and deal with material which is entirely conscious or very close to the surface of consciousness.

Interpretation is a specialized technique aimed at the uncovering of unconscious material, conflicts and feelings. It is utilized by those who are specifically trained in these techniques and therefore is not further discussed.

USE OF THE TECHNIQUES

Rarely is any one of the various technical devices that I have described used in unadulterated form. In practice, psychotherapeutic work mostly involves a combination—sometimes all of them simultaneously, albeit in quite different proportions.

In the hypothetical case of the man with the tension and somatization reaction, we might utilize all these devices. We would use suggestion to "suggest" that he examine his feelings and conflicts and consider more mature and effective ways of dealing with them. We would use abreaction in the sense of both permitting and facilitating the ventilation of his feelings toward his employer and other authority figures—perhaps even his physician. We would use manipulation by so treating this patient as to bring into focus his conflicts with authority figures, and by demonstrating in our own behavior that he can react to authority by means other than humiliating submission. We would use clarification by explaining to him the relationship between some of his symptoms and his conflicts in regard to authority figures, and perhaps by clarifying the way some of these patterns have developed. If this man were in a psychoanalytic situation, we would eventually interpret to him that his attitude toward his employer has derived from feelings of rivalry with past authority figures.

These various techniques describe things you can do in your role as "captive psychotherapist." But some cases are perhaps best handled by the so-called traditional medical approach rather than by a type of deliberate psychotherapy, although of course certain psychological benefits may accrue in the course of treatment. Here too one must not ignore the various positive psychotherapeutic consequences of the physician-patient relationship and what I have labeled as the "silent transference cures."

TRADITIONAL MEDICAL APPROACHES

Two broad and general categories of patients are perhaps best handled by the traditional medical approaches. First are those patients who are not sufficiently psychologically minded to benefit from psychotherapy; and second, those who are too sick, psychologically speaking, to receive psychotherapy unless administered with great caution and precision.

Let me elaborate on "not sufficiently psychologically minded" patients. This kind of patient presents himself with one or several psychosomatic symptoms. He may complain of vague anxiety or depression, which he calls "nerves" or "feeling low." Physical and laboratory examination probably will turn up nothing of consequence. The physician who attempts to get a better perspective of the patient's emotional life and problems runs up against a stone wall. The patient resolutely insists he has no emotional problems, however incontrovertible the evidence. This kind of person is really not aware of his emotional conflicts. He is not on good terms with his own feelings or inner life. He will resist and may also resent being confronted with manifestations of his feelings and emotional conflicts. He thinks and feels and deals with specific, tangible, and concrete entities. For him, his anxiety, his depression, his nervousness, definitely mean something connected with the "nerves." He is not comfortable with the abstractions and conceptualizations that belong to even the most elementary kind of formal psychotherapy. He wants his treatment in a concrete and specific form—something he can feel, taste or see—and not just in talk, ideas or abstract explanations. Therefore, most of these patients do better in the long run when they are treated by their own physicians in a symptomatic manner, with the traditional medical approaches, and when the psychotherapeutic benefits can be understood in terms of the "silent transference" influences.

Let me illustrate with a consultative case. The patient was an intelligent, attractive young woman, seemingly well adjusted. Yet superficial history of her case showed that she was quite disturbed emotionally and lived a narrow, restricted life. She had gone to her physician because of headaches for which there was no ostensible organic basis. She insisted that she had no psychological problems, but was happy and satisfied with everything. Her mother and father were ideal; her siblings were "loves"; her friends were "true blue." Any attempt

to correlate her headaches with some stress or psychological situation met with no more than a reluctant concession that "perhaps they come when I'm tired."

I sent up a few trial balloons—suggesting that perhaps she was more involved in certain emotional reactions than she was aware. Those balloons were quickly punctured. She really did not have the slightest idea what I was talking about. I felt that this woman should not be treated psychotherapeutically; that her physician should continue with the usual antiheadache regimen and not try to explore the emotional basis for her difficulties. She was too well defended for such attempts, and did not have the psychological frame of mind or psychological readiness to accept such concepts. Repeated and overly strenuous probing would not only fail but might also jeopardize a good rapport which she enjoyed with her physician and which is essential to the symptomatic treatment of such cases.

In the second group—patients too sick, psychologically, for psychotherapy unless it is carefully administered by a highly trained therapist—are patients with a wide variety of so-called psychosomatic conditions such as certain skin diseases, asthma, ulcerative colitis and backache. Or they may complain of a diffuse hypochondriasis or a vague dissatisfaction with life. It is evident that their emotional life is disordered; their relationships with other people unsatisfactory; their overall approaches to living immature and chaotic. Some are fundamentally psychotic or borderline individuals who incorporate the somatic complaints into their psychological systems in such a way as to help them ward off an actual psychosis—or to maintain an otherwise shaky psychological equilibrium. Of course not all, or even most, of the patients with such complaints are psychotic or potentially psychotic; but many of them are potentially so disturbed that the possibility of psychosis should be taken into consideration when the case is evaluated.

The important point here is that a careless or overly zealous attack on these patients' emotional problems not infrequently ends with the patient becoming free of physical symptoms—but also quite psychotic. Patients of this order, too, are best treated by symptomatic measures, not too vigorously applied, and with the idea that the patients will grow old along with you. The psychological equilibrium they have achieved should not be shaken severely. Hence a relatively restrained approach on the part of the physician may be necessary.

Several years ago I was asked to see a middle-aged woman in the midst of a severe depression. The patient had always been a rigid, conscientious, typically compulsive individual. During her menopause, severe pruritus vulvae developed. Her family physician had intuitively dealt with the case in a benign manner, treating the pruritus in a gentle, symptomatic fashion; and the patient was not at all unhappy with the situation. But her more psychologically sophisticated daughters, recognizing something "emotional" in the case, insisted that the mother should consult a gynecologist who, they had heard, had a reputation of being psychologically oriented. The gynecologist very quickly pointed out that the itching had no organic basis and that the symptoms were obviously caused by emotional conflict. The next day the itching disappeared. But the patient could not sleep. She became more and more agitated and increasingly depressed. Soon she was in a fully developed involutional depression with a very distinct paranoid flavor. She had to be kept in hospital for a long time. In this admittedly somewhat extreme case, the patient would have done much better to continue in treatment with her understanding physician, who seemed quite willing and able to tolerate her symptoms—and to tolerate his own frustrations in not being able to effect a quick and dramatic cure.

Psychotherapy is not a kind of magic known only to a few privileged practitioners; it is a group of techniques based on much theoretical knowledge and empirical observation. Psychotherapy is not a rigidly prescribed procedure which works in a precise step-by-step manner, regardless of who is doing what to whom. It is an extremely flexible, fluid series of technical procedures which must be varied, not only for different patients within a certain disease or symptom group, but also for different psychotherapists. Just as each patient will take from the therapeutic "bill of fare" what he most wants and needs, so will each psychotherapist take from the psychotherapeutic armamentarium that which best fits his own needs and temperament.

And so the crux of psychotherapy is in the physician-patient relationship; and this operates essentially through the medium of speech—through talk. The one important thing is to be a good listener. However banal the dictum, a good listener is not easy to define. Certainly he must not be impatient, must not be uninterested. Certainly he must be honest—without censure, ridicule or condescension. The phrase I like best is borrowed from Dr. Emmy Sylvester, who once defined the essence of good psychotherapy as "respectful listening." Day after day and patient after patient after patient, nothing will be of greater benefit to your patients than your respectful listening.

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Phenothiazine Ataraxics

Extrapyramidal Reactions

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• Thirty-nine cases of extrapyramidal reactions caused by seven chemically different phenothiazine medications are presented. Historical, pharmacological, diagnostic, and therapeutic factors are considered. It is important that the physician prescribing phenothiazines be well aware of the reactions which may occur so that therapy may be discontinued at the first untoward signs.

THE WORD *ataraxia* is of Greek derivation, meaning perfect peace or calmness of mind. While the ataraxic group of drugs has served excellent purposes, it is well known that these drugs do not always provide perfect peace for the patient or the physician treating him.

This paper summarizes 39 cases of extrapyramidal reaction to phenothiazine brought to the Los Angeles County Communicable Disease Unit during the years 1958 to 1960. An analysis of the data and discussion of diagnosis, treatment and theoretical considerations is presented.

Phenothiazines had a colorful beginning, one of them being a basic compound in such dyes as methylene blue. Also, they were used in treating livestock for parasitic worms, and less than 15 years ago it was thought their clinical application for man would be in the treatment of worm infestation and urinary tract infections.[1] The phenothiazine compounds were developed at the Rhone Paulenc Laboratories near Paris, France, where experiments in using derivatives of this compound in trypanosomiasis and malaria were made.[12] In 1952, Haborit and co-workers synthesized promethazine (Phenergan,® Wyeth). Chlorpromazine also was developed in 1952, by Harmon, Paraire, Delay, Denilser, Harl and others, and initially was used in anesthesia. In 1954, Thiebaux[19] and co-workers of France, reported some of the first cases of extrapyramidal reaction secondary to phenothiazine administration, and within two years, reports of reactions appeared in the North American literature.[10,17]

Cohen[5] in 1956, in a review of 1,400 patients on chlorpromazine, noted that 4 per cent had Parkinsonism, with rigidity the prominent feature, only two patients having transient episodes of tonic spasm of various muscle groups, muscular twitching and torsion of the trunk. In a series[3] of 3,014 hospitalized patients receiving chlorpromazine, there was a 0.2 per cent incidence of Parkinsonism and 0.6 per cent of the patients had convulsions. As was noted by Flegenheimer,[6] the newer phenothiazines (Table 1, B) are more potent than chlorpromazine and produce fewer side effects, such as drowsiness, hypotension, jaundice and dermatitis. The incidence of extrapyramidal signs, however, is much greater with the newer drugs than with chlorpromazine. Incidence of extrapyramidal reactions was 38 per cent in a series of 363 chronic psychotic females treated with perphenazine,[21] and Freyhan[8] reported a 12 per cent incidence of dyskinesia with prochlorperazine and a 20 per cent incidence with trifluoperazine and perphenazine.

Signs of extrapyramidal reaction were of three kinds:

1. Dystonia or dyskinesia, characterized by spastic contractures and involuntary movements that may involve any muscle or muscle group and make for bizarre behavior of the patient. (The majority of our patients were in this group.)

2. Parkinsonism with tremor, rigidity and increased salivation.

3. Akathisia or turbulence, a condition of generalized restlessness, with inability to sit still.

Dyskinesia usually appears after two to three days of therapy with one of the newer phenothiazine drugs, whereas Parkinsonism usually is manifest after two to four weeks of chlorpromazine administration.[8] Perhaps this difference is due to different locations of biochemical action within the extrapyramidal system. Nielsen[14] mentioned that pathological change in the substantia nigra is most likely to cause tonic rigidity, whereas affliction of the globus pallidus results in kinetic activity.

The bizarre nature of these extrapyramidal reactions is reflected in the variety of tentative diagnoses that led to referral to the Communicable Disease Unit: Possible tetanus (58 per cent of all cases); encephalitis (16 per cent); meningitis (8 per cent); rabies (3 per cent); botulism (3 per cent); deferred (8 per cent). Before the nature of

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TABLE 1.—*Data on Causative Agents in 39 Cases of Extrapyramidal Reactions to Phenothiazines*

Chemical Name	Commercial Name	Manufacturer	No. Cases	Per Cent of Series
A. DIMETHYL DERIVATIVES OF PHENOTHIAZINE:				
Chlorpromazine	Thorazine	Smith, Kline and French	1	3
Promazine	Sparine	Wyeth	1	3
Trifluopromazine	Vesperin	Squibb	1	3
B. PIPERAZINE DERIVATIVES OF PHENOTHIAZINE:				
Prochlorperazine	Compazine	Smith, Kline and French	23	59
Trifluoperazine	Stelazine	Smith, Kline and French	1	3
Perphenazine	Trilafon	Schering	11	28
Theopropogate	Dartal	Searle	1	3

these reactions was fully appreciated, therapy for tetanus was even begun in one case.

The following cases briefly illustrate particular points:

CASE 1. A 17-year-old white boy received prochlorperazine for three days for nausea and vomiting secondary to influenza—10 mg. twice a day for the first two days and one dose of 15 mg. on the third day. Four hours after the last dose, uncontrolled intermittent movements of the legs began, with moderate pain in the back from muscular spasm, a sardonic grin, protrusion and curling of the tongue, and thick speech. Episodes occurred every 10 to 15 minutes and lasted several minutes. No other abnormalities were noted on physical examination. With discontinuation of prochlorperazine and administration of 60 mg. of phenobarbital, symptoms subsided within four hours.

Comment: This case was typical of the series, although in many cases the episodes were closer together and sometimes shorter. During intervals between reactions, the patient felt normal, but this was not a constant finding in all cases. It is noteworthy that the dosage given was within recommended limits.

CASE 2. A 14-year-old white girl was given perphenazine for nervousness following removal of an ovarian cyst one month previously. After taking 12 mg. of perphenazine in three doses over a two-day period, the patient was found standing in a daze in her bathroom and making odd movements. She was taken to a hospital and given sedative to induce sleep, after which the symptoms subsided. The next day the patient took 4 mg. of perphenazine in the morning and again in the afternoon. In the evening a more severe repetition of the bizarre movements occurred and she was admitted to Los Angeles County General Hospital. The blood pressure was 140/62 mm. of mercury, the pulse rate 100 and respirations 32 a minute.

The patient, who was well developed and slightly obese, was having intermittent episodes of clonic, tonic and athetoid movements while remaining fully conscious and unfrightened. Between attacks, the patient was quite normal. The nature of the movements varied and at times there would also be trismus, rotation of the head and neck, carpopedal spasm, nuchal rigidity and opisthotonus. Most remarkable was severe grinding of the teeth, which was clearly audible and resulted in fracture of four lower incisors. The episodes stopped promptly when 120 mg. of amobarbital was given intravenously and 90 mg. of phenobarbital intramuscularly. Additional doses of amobarbital and phenobarbital were necessary as there was return of spasms after several hours. The patient's symptoms subsided approximately six hours after the start of the second attack.

Comment: This case illustrated the dynamic involuntary muscular movements which may occur—in this instance sufficient to fracture four teeth. There has been a previous report of tooth fracture.[15] Additional comment will be made on therapy later, but, as has been noted by others, although the barbiturates are adequate for mild cases, more efficacious therapy is required in the severe cases.

Table 1 lists the drugs that were used in the cases in the present series and the number of patients affected by each. Seven of the patients with prochlorperazine reaction and seven with fluopromazine reaction had received dosage 25 to 50 per cent over the manufacturer's recommended dose. Particularly notable were three cases of more severe overdosage:

1. A 13-year-old Caucasian girl received two 25 mg. suppositories of prochlorperazine in one evening for nausea and vomiting. Extrapyramidal symptoms were reported to have lasted three days after diagnosis and transfer to another hospital. This was the longest duration of symptoms in the series.

2. A 33-year-old Caucasian woman who had nausea and vomiting of pregnancy took 5 mg. of trifluoperazine every three to four hours for a total dosage of 50 mg. in less than two days. The patient had neck spasms, pronounced hyperextension, dysarthria and dysphagia, movements of the tongue and decided extension of the feet for periods as long as 5 minutes. The deep tendon reflexes were diffusely hyperactive, but there was no pathologic reflex. The patient responded satisfactorily to treatment with barbiturates.

3. The patient, a 60-year-old white man, had been in good health except for depression with occasional threats of suicide for the preceding ten to fifteen years. There was no history of Parkinsonism or hypertension.

On February 28, 1960, about 11 p.m., the patient reportedly took between twenty and fifty 25 mg. tablets of Sparine® (promazine hydrochloride). Five hours later he was found semicomatose and was sent to a hospital.* On entry the blood pressure was 170/110 mm. of mercury, the pulse rate 114, respirations 16 a minute and the temperature 37.6°C. The patient had inappropriate response to questioning, and there was a decided "pill-rolling" tremor. Approximately nine hours after ingestion of the drug, cogwheel rigidity, profuse perspiration, dysarthria, hyperkinetic motor patterns, incoordination and active hallucinations were present.

At 10:30 the next morning, the patient was given 25 mg. of Benadryl® (diphenhydramine hydrochloride) intravenously. Within an hour there was appreciable clearing of the convulsion and a reduction of blood pressure to 140/80 mm. of mercury. Later doses of Benadryl were given by mouth and all reactions disappeared within 15 hours after onset.

Comment: No other patient had this degree of lethargy or suppression of mentality. The degree of transitory hypertension in this case was remarkable, since hypotension generally is associated with phenothiazine drugs due to their adrenolytic action. Only one other patient had a transitory elevated systolic blood pressure.

A large proportion of the patients in the present series—27 of 39—received phenothiazine for nausea and vomiting, including five who were in the first trimester of pregnancy. Only five were under management for mild psychiatric disorders. In most of the other large reported series the patients were under psychiatric therapy. We believe, in agreement with the conjecture by Cleveland and Smith,[4] that acute infection, particularly with nausea, vomiting and dehydration, may predispose to extrapyramidal reactions. There was no significant history of allergic sensitivity in any of the cases in the series.

Two of the patients later received the same phenothiazine again, without ill effect. Two others had a repetition of the phenothiazine reactions when they again were given the same preparation, but in those cases the resumption of the drug was during the same illness.

SIGNS AND SYMPTOMS

The most common signs and symptoms in order of decreasing frequency were: Spasm of the neck and opisthotonus; trismus; sardonic grin and facial spasm; protrusion or uncontrolled movement of the tongue; dysarthria; spasm of the extremities and shoulders, occasionally with carpopedal spasm; uncontrolled movements of the jaw; dysphagia. Drooling, rigidity and tremor of the hands and legs occurred in six cases. Difficult breathing, hyperpnea, oculomotor spasms, grinding of the teeth, athetoid movements, bleeding from bitten tongue and mucous membranes and hyperactive deep tendon reflexes were noted in some 5 to 10 per cent of cases. Five patients were noted specifically to be unconcerned, or tranquil, throughout their entire involvement, but an equal number complained of pain from muscular spasm. Only one patient, in our opinion, had sufficient persistent restlessness and turbulence to warrant the term *akathisia*. Single instances of nystagmus, nosebleed, tachycardia lasting two days, and hypertension were noted. None of the patients had a hairy tongue, a symptom that is occasionally reported.[16]

An analysis of time intervals was made in those cases in which the intervals could be well documented. The longest duration of reactions was three days and the shortest was four hours after discontinuance of phenothiazine. Reactions lasted less than 12 hours in 23 cases, and longer than 24 hours in only seven cases. The longest duration of phenothiazine administration before onset of reactions was six days, and the shortest was four to eight hours (Table 2). The usual interval between onset of the first extrapyramidal reactions and the last phenothiazine administration was less than eight hours. A number of patients received additional doses after the onset of early symptoms. In four patients symptoms did not develop until more than 12 hours after the last dose of phenothiazine. The longest interval in this category was 30 hours.

Twenty-two of the patients were females and 17 were males. It has been generally reported that phenothiazine extrapyramidal reactions are more frequent in females. A ratio of 2:1 was reported in one series.[8]

The age range in the present series (Table 3) was wider than in most others reported. The youngest patient was 11 months old. The youngest that could be found in the literature was six months old.[4] The oldest patient in the present series was a 60-year-old man.

DIAGNOSIS

The diagnosis of phenothiazine reaction is usually made with comparative ease from the rapid onset of the bizarre clinical manifestations and the history of administration of a drug from this group. Occasionally, where the history is uncertain, phenothiazine administration may be corroborated by a urinary test.[7, 20] When 3 ml. of urine are added to 1 ml. of solution containing 10 per cent ferric chloride and 1 per cent hydrochloric acid, a purple-brown color will develop instantly if sufficient quantity of a phenothiazine metabolite is present.

*The patient was seen later in the Acute Unit of the Los Angeles County General Hospital after transfer there.

TABLE 2.—*Duration of Phenothiazine Therapy Before Onset of Extrapyramidal Reactions, and Time Between First Reaction and Discontinuance of Drug*

Duration of Phenothiazine Administration Before Onset of First Extrapyramidal Reactions		Interval Between Onset of First Extrapyramidal Reaction and Last Phenothiazine Administration	
Hours	No. of Cases	Hours	No. of Cases
4- 8	1	4 or less	10
8-12	....	4- 8	11
12-24	10	8-12	3
14-36	4	12-24	3
36-48	10	24-36	1
48-72	4		
Over 72	2		

TABLE 3.—*Age of 39 Patients with Extrapyramidal Reaction to Phenothiazines*

Age (Years)	Number
0 to 5	1
5 to 10	5
10 to 15	10
15 to 20	7
20 to 25	7
25 to 30	1
Over 30	8

We were not helped by other laboratory studies, including routine examination of blood, urinalysis, spinal fluid examination (done in the first 12 cases) and determinations of chemical contents of the blood: serum calcium, phosphate, urea nitrogen, carbon dioxide, potassium and sugar. Smith[18] reported mild increases in the protein content of spinal fluid in patients receiving phenothiazines. In four cases in which electroencephalograms were taken, the tracings were within normal limits even though taken immediately after seizures. This is to be anticipated, as the ordinary electroencephalogram does not record subcortical activity.

Reserpine may produce similar extrapyramidal reactions, and occasionally Deaner® (deanol) will cause tenseness of the jaw and neck muscles. With this bizarre activity, the diagnosis of conversion hysteria may tempt the unwary, and this is particularly fraught with danger if increased doses of phenothiazines are therefore contemplated. Reference[9] has been made, however, to probable cases of chronic, and particularly acute transient Parkinsonian reactions in combat neurosis that appear to have a psychogenic basis.

THERAPY

The initial step in therapy of a phenothiazine reaction is discontinuance of the causative drug and assurance to the patient that the reactions will be of short duration. Barbiturates, particularly the short-acting compounds, may be sufficient in mild cases. Caffeine sodium benzoate given intravenously, or Benadryl® (diphenhydramine) intravenously, or intramuscularly are more effective in giving prompt and lasting relief in the more severe reactions.

The anti-Parkinsonism drugs—Artane® (trihexyphenidyl), Cogentin® (benzotropine methane sulfonate), Kemadrin® (procyclidine hydrochloride) and Pagitane® (cycrimine hydrochloride) — have been used with success by some physicians. In psychiatric cases, the physicians in some institutions give a daily prophylactic dose of one of these anti-Parkinsonism drugs, or, if an extrapyramidal reaction has occurred, the dosage of the phenothiazine will be decreased and an anti-Parkinsonism drug given concomitantly.

COMMENT

The physiologic effects of the phenothiazines in usual therapeutic doses are generally due to an inhibition of subcortical centers, especially the hypothalamus, the brain stem reticular formation and the thalamic diffuse projection system. The extrapyramidal system, which is phylogenetically and ontogenetically earlier than the pyramidal system, influences the more stereotype activities. Krieg[13] well described the complex situation, stating that the mechanisms underlying the various clinical conditions associated with pathosis of the extrapyramidal system cannot be fully understood from an examination of the brain postmortem, for lesions are too varied and uncorrelated with the minimal pathosis. The one trait these abnormal motor patterns have in common is the exaltation of the strength of the stretch reflex.

Some psychiatrists have expressed belief that extrapyramidal reactions may be helpful in some cases, as they have noted remission of psychosis after episodes of this kind. Observations by other investigators[2,11] gave no support to that belief. No beneficial affect of extrapyramidal reactions is apparent in patients under therapy for gastrointestinal disturbances.

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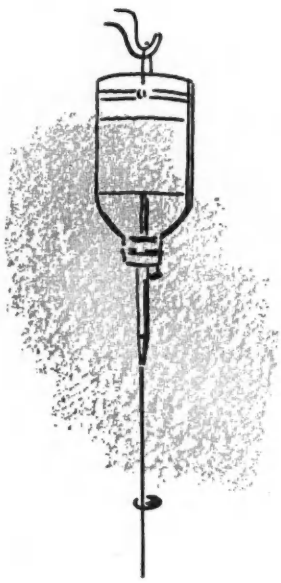

A New Antihypertensive Agent

Clinical Evaluation of a Rauwolfia-Flumethiazide Combination (Rautrax®)

GEORGE E. NESCHE, M.D., Oakland

• Twenty-eight patients were treated with Rautrax,® a combination of flumethiazide, rauwolfia and potassium chloride for from one to seven months. The average mean blood pressure for the group declined from 135 mm. of mercury to 107 mm. All but two of the patients had a decrease in blood pressure and 19 became normotensive. Associated symptoms of headache, dyspnea, edema and angina were completely relieved or improved in the majority of patients with these complaints. On the basis of the blood pressure response and the clinical effects seen in the patient, therapeutic results were classified as good to excellent in 22 of the 28 patients, fair in two, and poor in three. No evaluation was made in the remaining patient in the series because further adjustment in dosage was required.

Three patients had side effects—moderate gastrointestinal upset in one case, headache and a sensation of the bladder's having been "wrung out" in another, and headache and paresthesia of the legs in the third. Only the third patient had persisting symptoms after the drug was discontinued. In the other two reduction of dosage sufficed.

THE USEFULNESS of chlorothiazide and similar compounds as adjuncts to other antihypertensive therapy has gained increasing recognition within recent years.[1,2,4,6,7] Since the effectiveness of antihypertensive agents generally is enhanced by using diuretic-saluretic preparations with them, the hazard of side effects can be lessened by reducing the dose without sacrifice of therapeutic effect. However, electrolyte disturbance may accompany active diuresis and some difficulty from potassium loss from use of these adjunctive drugs has been reported.[5]

Recently a new preparation, Rautrax,® which is designed especially to provide antihypertensive therapy without the problem of potassium loss, has become available for clinical use. It combines the well-recognized antihypertensive agent rauwolfia serpentina (whole root) with a new oral diuretic agent, flumethiazide, with added potassium chloride. I used Rautrax® over a period of seven months in the treatment of unselected hypertensive patients and found it remarkably effective, especially in patients with essential hypertension.

Eight men and 20 women were treated. The range of ages was from 44 to 80 years, 18 patients being 60 years old or older. Hypertension was noted on routine physical examination in all cases. "Essential" hypertension was the diagnosis in 22 cases, hypertension associated with arteriosclerosis in four others. In the remaining two the disease was classified as combined essential and arteriosclerotic hypertension. The range of blood pressure was from 150 to 245 mm. of mercury systolic, and from 95 to 135 mm. diastolic, with an average for the series of approximately 192/106 mm.

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Associated conditions noted on examination of the patients or derived from the history included the following:

Condition	Present	Past	No. of Patients
Arteriosclerosis	x		8
Cerebrovascular accident		x	2
Heart disease	x		5
Cardiac infarction		x	2
Angina pectoris	x		3
Cerebral dysrythmia	x		1
Arthritis	x		1
Osteoporosis	x		2
Obesity	x		6
Menopause	x		4
Allergy	x		3
Carcinoma of bladder	x		1
Cholelithiasis	x		1
Parkinson's disease	x		1
Hypothyroidism	x		1

In a number of cases, more than one of the conditions given in the table were present in the same patient.

Two additional patients were originally included in the series but were dropped from the study before evaluation of results could be made. One of these patients died suddenly after approximately a month of treatment. She had appeared to be well the day before she died. Even so, her death was not unexpected, for she had a history of long-standing hypertension with associated angina and on one occasion had had some cardiac decompensation. The other patient was dropped from the study because gastrointestinal upsets developed after almost a month of therapy with Rautrax® and the drug had to be discontinued. She had had similar reactions previously with other rauwolfia preparations.

TABLE 1.—*Blood Pressure Response to Rautrax® in 28 Hypertensive Patients*

	No. of Patients Treated	Average Mean Blood Pressure (mm. Hg.)* Initial	Posttherapy	No. Becoming† Normotensive	No. with Drop in Mean Blood Pressure of at Least 20 mm. of Mercury
Men	8	138	103	6	8
Women	20	133	111	13	10
Entire series	28	135	107	19	18

*Mean blood pressure: Diastolic plus one third of pulse pressure.
†Normotensive: Mean blood pressure of 110 mm. of mercury or less.

TABLE 2.—*Evaluation of Clinical Response to Rautrax® in 28 Hypertensive Patients*

Clinical Response	No. of Patients Male	Female	Total
Excellent	5	11	16
Good	2	4	6
Fair	1	1	2
Poor	0	3	3
No elevation	0	1*	1
Totals	8	20	28

*Pronounced decrease in blood pressure obtained with 1 tablet of medication three times a day was followed by rise when dosage was reduced to 1 tablet daily. Dosage was not yet adjusted at time of report.

Rautrax® contains in each tablet 50 mg. of whole root rauwolfia serpentina, 400 mg. of flumethiazide and 400 mg. of potassium chloride. The action of whole root rauwolfia in lowering the blood pressure and relieving associated "hypertensive" symptoms is well recognized. Flumethiazide is a new oral nonmercurial drug with diuretic activity roughly equivalent to that of chlorothiazide, to which tolerance does not develop.[3] Although a saluretic agent, flumethiazide does not significantly alter the concentrations of serum electrolytes.[3] Moyer said that flumethiazide has less effect on potassium excretion than do chlorothiazide and hydrochlorothiazide.[5] Potassium chloride was added as an ingredient of Rautrax® to protect against any loss of potassium that might occur from the saluretic action of the drug.

At the beginning of treatment the dose of Rautrax® was one tablet three or four times a day. Usually the dosage was reduced later to one or two tablets daily, depending upon the clinical response of the patient, but seven patients continued to receive the initial amount throughout the period of treatment. At the time of this report, the patients had been treated for from one to seven months, half of them for at least five months.

RESULTS

The therapeutic results obtained in this series are categorized in Tables 1 and 2. Clinical results were very satisfactory in the majority of patients. The average mean blood pressure* for the group as a whole decreased from the initial level of 135 mm. of mercury to 107 mm. Blood pressure levels declined in all but two of the 28 patients, significantly so in 18,† and reached normal levels‡ in 19 patients (Table 2). Although proportionally more men than women became normotensive, the difference probably was related to the presence or absence of sclerosis rather than the sex of the patient.

Associated symptoms of headache, dyspnea, edema and angina were completely relieved or improved in the majority of patients who had them. One patient with arteriosclerotic heart disease associated with hypertension was able to discontinue the use of digitalis and of additional diuretics while receiving Rautrax.® She had not been able to do so with previous antihypertensive therapy. A patient who had cerebral dysrhythmia in addition to the hypertension had no major attacks of unconsciousness and less frequent episodes of myoclonia and visual disturbances after treatment with Rautrax.®

On the basis of the observed decrease in blood pressure to normal or near normal levels and the clinical improvement in most or all of the associated symptoms, therapeutic results were considered to be excellent in 16 patients, good in six and fair in two.

In three other patients, there was little or no improvement either in blood pressure or in the relief of symptoms, and the results of treatment were rated as poor. No evaluation was made in the remaining patient in the series because the dosage had not been effectively stabilized at the time of report. Although her blood pressure decreased from 170/110 to 125/85 mm. of mercury with the initial dosage (one tablet three times a day) it rose to 160/100 mm. when the dose was reduced to one tablet a day, and further adjustment in dosage of the drug was indicated.

Side effects were observed in only three patients. One had moderate gastrointestinal upset while taking four tablets daily, but not after the dosage was reduced to three tablets a day. In another case Rautrax® was discontinued when the patient complained of a peculiar headache and paresthesia of the legs. Reducing the dosage did not relieve these symptoms and they persisted for two months after the drug was discontinued. This patient had generalized arteriosclerosis with severe hypertension and had had a "stroke" three years before. One possible explanation is that these symptoms may have been a reaction of the central nervous system to the dehydration induced by the drug. A patient who had habitually complained of side effects from

* Mean blood pressure is defined here as diastolic pressure plus one-third of pulse pressure.
† Drop in mean blood pressure of at least 20 mm. Hg.
‡ Mean blood pressure of 110 mm. Hg. or less.

previous medication, said she had severe headache while taking three tablets of Rautrax® a day. On her own initiative she stopped taking it. Then when she resumed the drug at 1 tablet daily, under medical direction, she felt better; but when the dosage was increased again to three tablets a day she complained that her bladder felt "wrung out."

One of the men died during treatment but his death was not unexpected since he had coronary arteriosclerosis with angina and had had coronary occlusion some years before. In this patient a massive anterior cardiac infarction occurred some two months after the blood pressure had decreased under treatment with Rautrax® from 180/110 to 120/70 mm. of mercury. He died 11 days later, probably of ventricular fibrillation.

The general impression of Rautrax® from this trial was that it is a remarkably effective material and a valuable antihypertensive agent at least for the initial phase of treatment of patients with essential hypertension.

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The Coroner and the Common Law

III. Death and Its Medical Imputations

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SOMETIMES A PERSON is alone when he dies. More often, friends or relatives are present. In rare and fortunate instances the family physician is present at the time of death. In any case the physician who has been in attendance upon the patient in his last illness immediately becomes responsible for the signing of the death certificate within 36 hours, provided (1) he is duly licensed and qualified; (2) he has been in attendance upon the patient for a legal length of time; (3) he has adequate knowledge of the patient's illness. In the certificate he must record the legal details of personal identity of the patient, the time relationships of the illness and the death, the immediate cause of death and any accessory, contributing or miscellaneous diseases. This record may be completed at the place of death or elsewhere upon receipt of the blank certificate. After this certification the family or other responsible persons may release the body to a legally qualified and licensed person who has been employed to conduct the burial.

If for any valid reason the physician is unable to sign the death certificate, he must remand the case to the coroner by reporting the salient circumstances of the death to him or his deputies. This report may be given orally, by telephone if the physician wishes. Under the latter conditions it is unlawful for anyone but the coroner's representative to remove a dead body from the position or place of death to any other position or location, unless the body is inflammatory to the public view, such as in an open and exposed place, or if it constitutes a public hazard by its location, such as on a congested thoroughfare. Nonmedical personnel, such as ambulance attendants, public health department stewards, or nurses when called to the premises of a sick, comatose, moribund or apparently dead person may take whatever steps necessary for ascertaining the advisability of summoning medical treatment. They may also administer emergency first aid. Such persons may go through the established medical routine of determining whether or not the patient is dead. When it becomes apparent that emergency first aid or further medical attention will be futile or that the patient has died, neither the body of the deceased nor any of the adjacent surroundings may be further disturbed by anyone but persons with the coroner's legal authority.

No attendant or other person excepting the coroner's representative is entitled to search the body, clothing or premises of a dead person, nor may any person direct a member of the family to conduct such a search. It is illegal for anyone, including newspaper reporters, to seek pertinent information of the relatives before the death certificate is signed by the physician or authority has been assumed by the coroner. An exception obtains in the case of an ambulance crew that might remove a dead person or one who died in transit from the place of collapse or death to an emergency hospital. In these circumstances, the property and effects of the dead person are received by the admissions clerk of the institution and accounted for by the hospital authorities in the same manner as if the patient were alive.

If, after death, there are no members of the family present and the body is attended by either casual friends or incidental strangers, those in attendance should notify the family, the family physician or the coroner. They should then see that the premises are locked. All persons should be warned against entry. The police department may also be called so that an officer of the law may be present and on guard pending the arrival of members of the family, the family physician or a coroner's representative. In obvious criminal, accidental or suicidal deaths, both the coroner's office and the police department should be notified at once by anyone present. Upon notification, a member of the police must appear in person to conduct an official investigation. It is, however, improper and unlawful for a police officer to give or accept vocal orders for removal of the body of a deceased person but he may take such action upon receiving written orders from the coroner's office.

In coroner's cases, coroner's deputies may remove the body to any authorized place. Any citizen may be deputized by the coroner at his discretion and any place may be designated. It is unlawful, excepting in the most unusual circumstances, such as death occurring at sea or in remotely isolated and inaccessible areas, for any unlicensed person

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to act as an agent of interment. If such an emergency burial is unavoidable, the circumstances should be reported to the nearest legal authorities at the first opportunity.

The death certificate, after completion, is filed with the Bureau of Vital Statistics, where it is reviewed and finally tabulated. If the certification is unsatisfactory or inadequate, the Bureau of Vital Statistics may suspend the death certificate and report the case to the coroner for review. Morticians may also refuse to accept a death certificate, if in the progress of their work they find that the cause of death as certified is inaccurate. Or, if suspicious circumstances are encountered, they should immediately report their findings to the coroner's office.

Responsibility for the reporting of irregularities of a suspicious nature is not limited to the physician, the mortician and employees of the health department. Every citizen having knowledge of previous, accessory or subsequent suspicious circumstances associated with death is required by law to report the facts truthfully to the proper authorities. The coroner's office in accepting information must rely implicitly upon the honesty of the reporting persons. Section 148 of the California State Penal Code provides penalty for anyone giving false information and provides that such reports shall not be made except in bona fide coroner's cases. This does not include cases wherein a physician may wish to obtain an autopsy after permission has been refused by the family. Conversely, the code provides that information regarding authentic coroner's cases shall not be withheld. It further provides that in coroner's cases autopsy studies shall not be made by a physician or pathologist after obtaining autopsy permission from the family unless the permission of the coroner has also been obtained. Violation of this section of the Penal Code is an offense punishable by imprisonment up to five years and a $5,000 fine.

Although not illegal, it is improper and unwise for physicians to conclude the "dead and discharge" note in their records or in a hospital chart with the clause "cause of death unknown" when the progress reports made to the family have given ample evidence of adequate knowledge of the sequence of events leading to death. It is also inadvisable to include in the discharge or terminal notes of medical records the entry that death may have been due to a "possible injury," or "possible drug ingestion" or "possible transfusion reaction" or any other medical uncertainty in the hope of creating sufficient doubt in the minds of relatives either to persuade one of the family to sign an autopsy permit or to cause the coroner to order an autopsy when there is not sound reason to perform one. The coroner's office must accept a request for a preliminary investigation, but a provocation should not be used by house staff officers, hospital authorities, physicians, or members of the family to induce the coroner to authorize an autopsy study. The pathologist, acting independently or as an agent of an institution, has a special responsibility both in accepting a permit for an autopsy and during the investigation. Should the pathologist, in the review of the history submitted with the autopsy permit, decide that the case belongs in the coroner's jurisdiction, he should not proceed with his investigation but report the case to the coroner for clearance. When in the progress of an autopsy, he finds that the death may have been due to dubious circumstances, the autopsy should be arrested and the coroner's office consulted for procedural directions.

Excepting for the coroner's cases, the public administrator of the county has official jurisdiction of the body where there is no estate, no will, an estate with no will, or where there are neither relatives nor responsible friends. After notification in such cases he takes charge of the body and the property of the decedent, searches for the next of kin, arranges for burial as may be required by law and administers the disposition of the residual funds and personal effects. The state anatomical board in certain circumstances may assume authority and retain bodies for dissection.

In cases in which death is apparently due to natural causes, a death certificate is signed, the body is buried and then subsequent evidence reveals that there may have been other causes of death than those recorded, the coroner has the authority of exhumation. Under Section 27491 of the Government Code, he may "for the purposes of such investigation, in his discretion take possession of and inspect the body of the decedent, which shall include the power to exhume such body" and order an autopsy examination. The cost of exhumation and the autopsy is borne by the county.

POLICE DEPARTMENTS

While police officers have a special responsibility associated with death, police officers are not authorized to pronounce a person dead. This responsibility lies with the stewards of emergency hospital services, private physicians or a coroner's representative. The presence of an acquaintance of the deceased or the locking of the house or room does not justify the police officer in leaving the place of death before the arrival of a responsible friend, relative or duly constituted official. The police officer has no authority or responsibility to establish personal identification, or to take charge of the property at the scene of death. He should not search the body, clothing or premises of the deceased. He may, with the consent of the coroner, take charge of the lethal weapon in a case of mur-

der. He may not, however, take charge of suicide notes, wills or other documents, nor may he take or disturb any instruments or weapons with which a suicide was effected, these being solely in the stewardship of the coroner's office. Coroner's deputies themselves should not search a body or premises excepting in the presence of witnesses. Witnesses should be sought and asked to sign a list of the personal property of the deceased, whenever possible. At least one witness must be present, under any circumstances, before any public official may search a dead person or his premises.*

AUTHORITY TO SIGN AN AUTOPSY PERMIT

Until recently (1956) it was unlawful for a living person to grant permission for autopsy upon himself. Such bequests were unlawful because by existing statute a body after death, together with the rest of the estate, became the property of the heirs. A dead person had no property rights. Nor could an individual, under California law, will his body or any part of it to an institution for educational or experimental purposes. Then in January, 1956, recognizing the great benefits derived by society from the surgical transplanting of "dead" tissues to living patients, and for other enlightened reasons, the California State Legislature passed an act declaring it legal for an individual to permit an autopsy upon himself and to bequeath all or any part of his body to a qualified institution in order that it might acquire eyes, arteries, bone, cartilage, skin or other organic tissues for banking, research or educational or other academic purposes.

The legislation controlling autopsy permits has also been recently revised. Before the enactment of the new legislation, an autopsy permit had to be signed by the next of kin. The line of succession was spouse, father, mother, brothers and sisters in chronological sequence, then uncles, aunts and other relatives in the order of relationship. The law now permits any one responsible relative to authorize an autopsy. Where there are no relatives, a friend who will assume the expenses of burial may sign an autopsy permit. If the deceased is either intestate or indigent and has neither friends nor relatives, the public administrator of the county may permit an autopsy. In cases where there has been an accident which might be considered a contributory cause of death or where a claim has been made by the family upon an insurer or responsible persons for indemnification, an autopsy may be ordered by an official of the State Industrial Accident Commission. A duly elected or appointed judge may also issue a court order for a necropsy examination in such cases. The autopsy permit need not be a formal printed form. Any simple holographic statement on any kind of stationery is legal if it is signed by a qualified person in the presence of a witness who has also signed the document.

*All legal interpretation cited is general principle. There are many variations in local county and state health and safety codes.

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Early Infectious Syphilis

Male Homosexual Relations as a Mode of Spread

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• **Homosexual relations play an important part in the transmission of infectious syphilis. A preponderance of the males with infectious syphilis treated in Los Angeles City Health Department clinics in 1959 admitted to exclusively homosexual relations during the period in which they became infected.**

In the interviewing of males with infectious syphilis, inquiry should routinely be made relative to possible homosexual relations, for investigation of the sexual partners of homosexual males is particularly productive in terms of new case finding.

The practicing physician's awareness of the epidemiological significance of homosexual activity will influence his degree of clinical suspicion, his attitude in the physician-patient relationship and his concept of the opportunity and responsibility of bringing to examination the infected patient's sexual partners.

THAT HOMOSEXUAL RELATIONS play a large part in the spread of infectious syphilis in the City of Los Angeles was demonstrated by the results of a recent study. The findings assume additional importance in view of recent increases in the prevalence of early infectious syphilis. The significance of male homosexual activity as an important factor in the transmission of venereal disease deserves recognition by both practicing physicians and public health agencies.

In an attempt to evaluate quantitatively the contribution of male homosexual activity to the total problem of infectious syphilis as experienced locally, an investigation of morbidity reports and medical records maintained by the Los Angeles City Health Department was instituted. In the calendar year 1959 a total of 292 persons residing within the city limits of Los Angeles were reported as having primary or secondary syphilis. Private physicians reported 96 (32.9 per cent) of these cases and the remaining 196 or 67.1 per cent were diagnosed in venereal disease clinics operated by the city. Each of the nine venereal disease clinics operated in the nine district health offices of the City Health Department reported some cases, although not in equal distribution. A standardized routine is established for the diagnosis, treatment and follow-up care of patients with venereal infections, and uniform records are maintained in these clinics.

The series of patients considered in this study —194 persons with primary or secondary syphilis —comprises all patients diagnosed as having primary or secondary syphilis during the calendar year 1959 in city-operated clinics. Records on two other patients were not available.

In a review of the literature and of our patient records, no report was found of the transmission of any venereal infection as the result of homosexual relations between females. Hence this study is restricted to the role of male homosexual relations in disease transmission.

Of the 194 patients diagnosed with infectious syphilis, 170 or 87.6 per cent were males.

All patients in whom the diagnosis of primary or secondary syphilis is established are routinely interviewed at the time of diagnosis by medical interviewers to elicit the names and addresses of persons with whom they have had sexual contact—persons from whom the infected patient could have acquired the disease or to whom, once having become infected, he could have transmitted the disease. Uniform interviewing techniques are used. Those sexual contacts who are located by medical investigators are referred to their private physicians or to city clinics for examination and treatment. The location of potentially infected contacts of patients with infectious syphilis is considered a high priority effort by the public health agency.

Only 11 of the patients interviewed were unable or unwilling to identify at least one person with whom they had had sexual contact. Of the 159 males who revealed the identity of sexual partners, 89 (56 per cent) named only male sexual contacts, 21 (13.2 per cent) indicated that they had had sexual relations with both males and females and 49 (30.8 per cent) named exclusively female sexual partners.

It is interesting to note that these seemingly startling figures are readily accepted by the physicians, nurses and medical investigators working in the venereal disease clinics. It has been their subjective impression that in recent years a decided increase was being seen in homosexual patients who had become infected with venereal disease. Con-

From the Los Angeles City Health Department.
Submitted May 4, 1960.

TABLE 1.—*Number of Cases of Primary and Secondary Syphilis by Year in Five West Coast Metropolitan Areas (1955-1959)*

City	1955	1956	1957	1958	1959	Per Cent Change 1955-59
Los Angeles City	70	58	113	223	274	+291.4
San Francisco	45	89	124	144	311	+591.1
Portland	26	11	10	6	9	− 65.4
Seattle	15	18	13	14	36	+140.0
Los Angeles County excluding Los Angeles City	27	39	33	51	57	+111.1

Source: U. S. Public Health Service—Figures compiled for fiscal years of the political units listed, in contradistinction to figures elsewhere in this article, computed on calendar year basis.

siderable effort is made to expeditiously locate and bring to examination each individual named as a sexual contact. The diagnosis of syphilis in a person named as a contact serves to authenticate the reliability of the information which identified the contact as a sexual partner.

The interviewer seeks to identify the persons who participated in sexual intercourse with the infected patient during the period in which the patient could have acquired or transmitted the disease. This period is three months before the onset of symptoms in the case of primary syphilis and six months before the onset of symptoms in secondary syphilis.

The 89 males who participated exclusively in homosexual relations during the period covered by the interview named 551 different persons as sexual partners. The average number of different sexual partners per patient during the presumably communicable period—6.26 in the present study—is referred to as the contact index. This does not represent the total number of sexual episodes, but the number of different named persons with whom there was at least one sexual episode. The 49 males who had exclusively heterosexual relations identified 137 sexual partners—a contact index of 2.79. These figures would tend to confirm the impression of workers in the venereal disease clinics in Los Angeles, that, in general, exclusively homosexual males of the type seen in clinic are more promiscuous than the exclusively heterosexual males. The largest number of sexual partners reported by any one infectious male patient was 48, all of them males. Investigation of those exposed by this one patient brought to treatment five additional patients with active syphilis.

How many persons would have syphilis and not know it except for the contact investigations can only be conjectured. Among the persons who had had sexual contact with the 89 exclusively homosexual patients in the present series, 93 were found to have syphilis. This ratio, expressed as an epidemiological index, was 1.04. The epidemiological index for exclusively heterosexual males was 0.59.

Treating the patient alone does not represent the culmination of the physician's responsibility. Locating and examining persons who have had sexual contact with infected patients is essential for the eradication of syphilis. This is particularly urgent in view of recent increases in the incidence of infectious syphilis (see Table 1). It is our impression that the majority of the increase in Los Angeles between 1955 and 1959 was due to homosexual transmission of infectious syphilis.

Homosexual acts are prohibited by law and punishable as felonic in the State of California with a maximum possible sentence of 15 years' imprisonment for oral copulation and life imprisonment for sodomy (California Penal Code, 1959, Sections 288A and 286). In practice, however, homosexuals apprehended are often permitted to plead guilty to the minor charges of disturbing the peace (California Penal Code Section 415) or injuring the person or property of another (Section 650½) or vagrancy and lewd conduct (Section 647.5) with much less severe penalties. An additional requirement may be that the accused person register as a sex offender.

The legally contravened nature of homosexual copulation thus places additional importance on the confidentiality of the physician-patient relationship. Patients who have venereal disease as a result of homosexual relationships may very understandably be reluctant to disclose the manner of infection or the identity of others whom they may have infected. Any impression of collusion between law enforcement agencies and medical treatment agencies detracts from the effectiveness of case-finding among homosexual patients by rendering the patient and his sexual partners suspicious, uninformative and purposely misleading. Word of the trustworthiness of physicians and public health agencies appears, however, to spread rapidly in homosexual circles.

In view of patients' reluctance to spontaneously admit the mode of infection, it becomes imperative for physicians to possess a clinical index of suspicion directed toward the detection of the atypically located venereal lesion. The possible clinical significance of seemingly innocuous complaints such as rectal discomfort, discharge or minor fissure is apparent. Evaluation by anoscopy is to be considered in male patients suspected of venereal disease or homosexual activity.

The usual homosexual patient seen in Los Angeles City venereal disease clinics is a young white male of average or above-average socio-economic status. In acts involving sodomy or fellatio he may be either the aggressor or the recipient.

The patient presenting himself for treatment of a venereal infection acquired through homosexual relations may represent any one of a multiplicity of behavior patterns derived from the broad continuum of homo-heterosexual preferences. He may possess no feminine mannerisms and not be identifiable by physical appearance or demeanor. Conversely his feminine traits and characteristics may be conspicuous and immediately apparent. His behavior may be extremely promiscuous, as typified by the aggressor male who may have both male and female contacts and who possesses the dubious distinction of achieving the highest number of sexual contacts of any homosexual patient. On the other hand, two males may establish a stable relationship and live *en menage* for varying periods of time. Proceeding down the scale from passive amateur to female impersonator, male prostitute, and husband and wife relationship, there is seen a significant decrease in the number of contacts. It follows that less venereal disease is found among the more discriminating individuals. There may be no attempt to conceal homosexual inclinations and preferences, or a patient may be married and utilize his marital status to supply the guise of conformity.

It is thus apparent that attempts to identify a male as homosexual based upon physical appearance or mannerisms or marital status are futile. There is a broad spectrum of behavioral activity ranging from the exclusively heterosexual to the exclusively homosexual, and all shades of gradation are represented between the two extremes.

Due to the multiplicity of modes of sexual contact, primary syphilitic lesions contracted through homosexual activity may be present on the penis, scrotum, inguinal area, para-anal tissues, rectum or mouth. A rectal chancre will readily infect a sexual partner's external genitalia and this is the mechanism of homosexual transmission most frequently encountered.

As in any interpersonal relations, the physician's attitude toward the homosexual patient is of importance in the therapeutic process. The desirable sympathetic approach toward patients may be complicated by the physician's own attitudes, emotions and judgments relating to homosexual activity. An awareness of his own attitudes and feelings will facilitate a nonjudgmental physician-patient relationship.

It is interesting to note that there appears to be a diminished suspicion toward the hazard of contracting venereal disease on the part of some homosexual patients, which results from the erroneous concept that venereal disease is more likely to be associated, or is exclusively associated, with heterosexual relations. The reeducation of patients who have this misconception is important and is inherent in the responsibility of the physician.

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Short Umbilical Cord Complicating Elective Pitocin® Induction

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IT IS WELL KNOWN that in some patients administration of Pitocin® (oxytocin injection USP) to induce labor at term does not have the desired effect simply because of idiosyncratic insensitivity of the uterus to normal doses of the drug. Indeed, because it is so well known, physicians using Pitocin® for this purpose must guard against complacently assuming in all cases of induction failure that the failure is ascribable to Pitocin® insensitivity. There are many other possible reasons that must be considered lest a dangerous complication be overlooked.

The following case report will illustrate one of the less common, but very important, mechanisms responsible for failure of Pitocin® to induce labor.

REPORT OF A CASE

A 26-year-old white woman, pregnant for the fourth time, had had three previous spontaneous vaginal deliveries at term. The infants all weighed between 6 pounds 7 ounces and 7 pounds 15 ounces. The duration of labor at the birth of the first child was 12 hours, and for the other two was four hours each.

The antepartum course in the present pregnancy was uneventful and results of physical examination and routine laboratory tests were within normal limits. The baby seemed of term size and was in vertex presentation. The condition of the cervix was favorable for induction of labor. Two days after the expected date of parturition the patient was admitted to hospital for an elective induction of labor by means of intravenously administered Pitocin.® On examination at the time of entry into the hospital it was noted that the infant was about seven pounds in size and was in occiput left transverse position. The cervix was soft and 20 per cent effaced with the opening dilated to 2 cm. The station of the fetal head was minus one.

At 6:30 p.m., a 1:1000 Pitocin® drip was started intravenously at five to six drops per minute. The fetal heart rate was initially 140 per minute and regular. The membranes were stripped but not ruptured. The Pitocin® drip was steadily increased after it was determined that the uterus was not unduly sensitive to the Pitocin.® After an hour, during which the rate of flow was gradually increased, contractions had increased in quality to the point that the patient required analgesia. The contractions were then recurring every 3 minutes, lasting from 30 to 40 seconds. Dilatation of the cervix progressed to 4 cm. and the fetal head had descended to station zero with each contraction. Labor continued at this rate for the next two and a half hours, during which time the Pitocin® drip was gradually increased to 90 drops a minute. There was no further descent of the fetal head nor dilatation of the cervix, however. The fetal heart rate, which had been observed about every 15 minutes during the three hours and found to be regular at 140 a minute, suddenly dropped to 60 a minute and became irregular. The Pitocin® drip was immediately discontinued, but the fetal heart tones remained at this low rate for the next three minutes. Contractions ceased and the fetal heart tones rose to 180 per minute, becoming strong and regular. The fetal head, which was at no time considered tightly applied to the cervix, nor engaged, returned to station minus two and the uterine contractions over the next two hours became very weak and irregular, finally disappearing completely.

During the 24 hours following the foregoing episode, the fetal heart rate remained regular at 140 per minute, there was no uterine activity, and the patient remained comfortable. The following evening, Pitocin® in the same dilution was again started, and approximately two minutes later the patient had her first contraction. With this contraction, the fetal heart rate again dropped to 80 per minute and became irregular. The Pitocin® drip was immediately discontinued, the fetal heart rate returned to normal limits and the patient had no further contractions.

It was decided that either a tight loop of cord or a short umbilical cord was obstructing labor. Elective cesarean section under spinal anesthesia was decided upon as necessary for the baby. Through a low segment transverse incision, the fetal head was delivered easily, as were the shoulders. However, despite the fact that the cord was unentangled, it was impossible to deliver the fetus from the uterine wound without dividing the funis. This

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was effected and a living male infant was then delivered with ease. The placenta, which was manually removed, was observed to have been attached to the fundus. The infant weighed 6 pounds 12 ounces and was normal in all respects. The placenta was 15 x 16 x 5 cm., had a paracentral insertion of the cord, and was also normal. However, the cord was only eight inches (22 cm.), 3 inches being attached to the fetus and 5 inches to the placenta.

DISCUSSION

Clinically, umbilical cords are either "absolutely" or "relatively" short. A cord must be long enough to reach from the placental site to the vulva, and if the placenta is located in the uterine fundus, a length of 32 cm. is necessary. If less than 32 cm. long, it is considered "absolutely" short. A "relatively" short cord is one that is entangled about the fetus in such a way that descent of the fetus is impaired.[2]

In a review of the literature of recent years, relatively little was found on the obstruction of labor due to a pathologically short umbilical cord. Rosen[3] analyzed 1,525 deliveries at the Brooklyn Women's Hospital and reported an incidence of 0.78 per cent of cord length less than 30 cm. He noted further that 16.8 per cent were relatively short—that is, entangled in such a way that free mobility of the fetus was greatly impaired. Zambonini[4] reported an incidence of 0.3 per cent of "absolute shortness" of the cord. Without question, absolute shortness, presents a far greater hazard than relative shortness, although the latter may certainly present problems. Rosen admitted the difficulties and listed the following signs as accompanying such a complication:

1. A delay in the second stage of labor.
2. Failure of a normally presenting part to decend into a normal pelvic cavity.
3. Recession of the presenting part at the end of each contraction.
4. A high station of the presenting part in the absence of other cause.
5. Signs of fetal distress, such as irregularities of the heart rate, passage of meconium or increased activity of the fetus.
6. Irregular short and painful contractions.
7. Hypertonicity of the fundus.

Bret[1] reported and described five cases of "absolute" short cord. The length of the funis in these cases reportedly varied between 27 cm. and 37 cm. In three of these cases delivery by cesarean section was required. In one of the two cases in which the baby was delivered vaginally, there was a partial laceration of the umbilical cord, and in the other the infant was stillborn. In addition to these cases, there have been only about a dozen papers written, all but one of them in foreign journals, reporting cases of a short cord rupturing spontaneously during labor.

The present case illustrates the well established fact that continuous careful observation is always necessary during elective induction of labor. Furthermore, when labor does not ensue as expected, one must always consider underlying obstruction or inhibition. If the patient had entered spontaneous violent labor and fetal heart tones could not have been observed, the outcome might not have been so favorable.

SUMMARY

Pitocin® was given to induce labor two days after the expected date. The condition of the cervix was favorable at the time. Labor began and intensified with increasing dosage of the drug, the fetal head descending to station zero with each contraction. Then there was no further descent in two and a half hours and the fetal heart rate slowed precipitously. Pitocin® was discontinued, contractions stopped, and the fetal heart rate increased. When Pitocin® was tried again a day later contractions resumed and the fetal heart rate dropped again. At cesarean section it was observed that the umbilical cord was short, a complication that might not have been discovered in time to save the baby's life if it had been assumed that failure of delivery was because the patient was insensitive to Pitocin,® as many patients are.

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Probable Pericardial Cyst—Report Of an Unusual Case

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A MEDIASTINAL CYST that produced physical manifestations consistent with epigastric tumor is the basis of this report. Diagnostic pneumoperitoneum preoperatively was most valuable in determining the existence of a unilocular spherical cyst, 3.5 cm. in diameter, probably of pericardial origin.

REPORT OF A CASE

A 36-year-old Caucasian woman, a hospital attendant, was seen in surgical consultation July 25, 1956, because of recurring attacks of upper abdomi-

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nal pain since January 1955. Pain had been present for six weeks; then it became severe and the patient was admitted to Scripps Memorial Hospital, La Jolla, California.

The pain was described by the patient as a constant gnawing aching beneath the left costal margin, extending posteriorly to the midback. It was not affected by movement of the spine during work as a hospital attendant or by ingestion of foods. It was partially relieved by assuming a hunched forward position, and by taking narcotic drugs by mouth.

The patient could not recall any significant injury to the abdomen. She had had subtotal hysterectomy for benign pelvic disease in 1946 and lumbar laminectomy for ruptured intervertebral disc in 1952, both elsewhere. Partial intestinal obstruction due to postoperative pelvic adhesions required enterolysis and excision of the cervical stump in 1954 at Scripps Memorial Hospital. In a review of the hospital records it was noted that the patient had chronic endocervicitis without evidence of malignant change. The patient said that her weight had been stable at 152 pounds. She was 69 inches tall. Her general health had been good in recent years except for pneumonia in 1950, and frequent upper respiratory tract infections following that illness.

Review of family history elicited that the patient's mother was mildly diabetic, and there was a history of carcinoma of the rectum in a grandparent and of carcinoma of the breast in two maternal aunts.

The patient said she could feel a lump inferior to the xiphoid process when she breathed deeply, and on physical examination in the hospital a vaguely outlined slightly tender smooth spherical mass, 3 to 4 cm. in diameter, was palpated inferior and posterior to the xiphosternal junction. Upon light palpation of the left anterior chest, moderate tenderness and paresthesia was noted from the left sternal border to the midaxillary line, suggesting cutaneous hyperesthesia.

Results of blood examination and urinalysis were within normal limits, and a serologic test was negative for syphilis. Serum amylase preoperatively was 120 units (Somogyi, normal 40-110). Posteroanterior and lateral radiographs of the chest showed no mediastinal abnormalities (Figure 1). Cardiac size and contour and lung fields were normal. Plain films of the abdomen revealed three 1 mm. areas of calcification adjacent to the body of the second lumbar vertebra which were interpreted as ligamentous calcifications. The stomach was filled with air in an attempt to outline the palpable mass in the epigastrium. X-ray studies showed the spleen and kidneys to be of normal size and position but the mass was not discernible.

Diagnostic pneumoperitoneum was then accomplished with introduction of 300 milliliters of atmospheric air into the free peritoneal cavity. Roentgenograms with the patient in oblique position showed a 3 to 4 cm. spherical lesion at the level of the diaphragm at its anterior insertion (Figure 2).

Confirmation of the questionable epigastric mass by means of diagnostic pneumoperitoneum prompted exploratory laparotomy on August 13th, 1956, under general anesthesia.

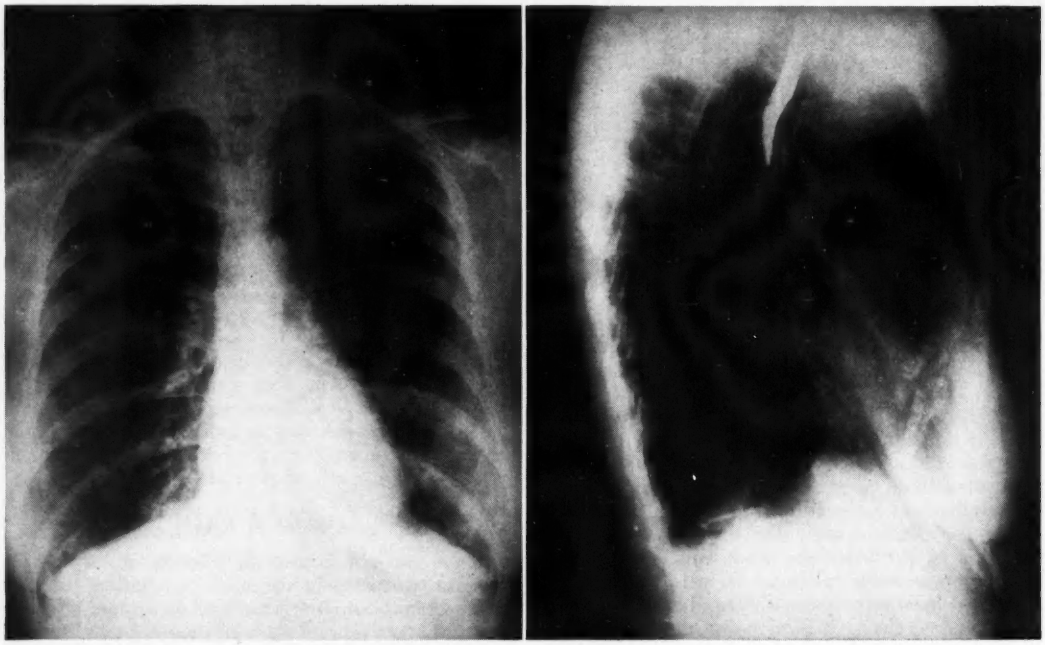

Figure 1.—*Left:* Postero-anterior chest radiograph. *Right:* Lateral chest radiograph. No abnormalities of the mediastinum, heart shadow or lung fields are visible on the plain roentgenograms.

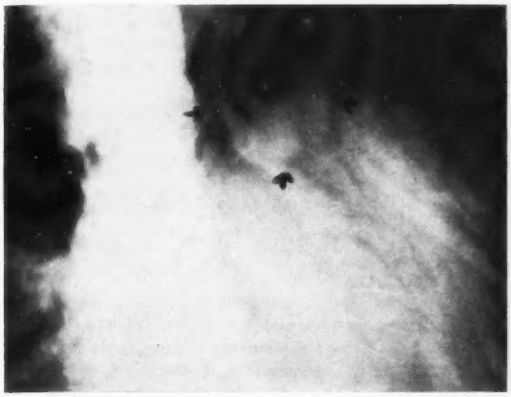

Figure 2.—Oblique positioning of the patient after pneumoperitoneum revealed a 3x5 cm. radiodensity (indicated by arrows) at the level of the diaphragm at its anterior (sternoxiphoid) insertion.

A midline vertical incision from the sternoxiphoid junction to the umbilicus permitted splitting of a stubby xiphoid process to the inferior sternal border. The tendinous insertion of the diaphragm to the xiphoid process and inferior sternum was stretched by a tense, bulging tumor which also stretched the parietal peritoneum in the midline. The spherical, thin-walled, tense cyst of 3x5 cm. was removed intact from the inferior anterior mediastinum, including the adherent edge of thinned diaphragm.

The specimen (Figure 3) consisted of a unilocular, thin-walled smooth-lined cyst filled with clear watery fluid. The external surface presented fibrofatty tags. The wall was paper-thin except for an area 2 cm. in diameter where it was thickened to as much as 2 mm., which appeared to be due to skeletal muscle on the external surface. Examination of microsections (Figure 4) showed the specimen to be a cyst lined by a single layer of mature mesothelial cells supported by loose areolar tissue, accompanied by skeletal muscle bundles and adipose tissue.

The postoperative course was uneventful except for mild deep vein thrombophlebitis in the lower left extremity, treated by elastic support and anticoagulant therapy for three weeks.

Figure 3.—The gross specimen revealed a thin-walled unilocular cyst 4.5x3.5x2.0 cm. containing crystal-clear watery fluid which transmits light.

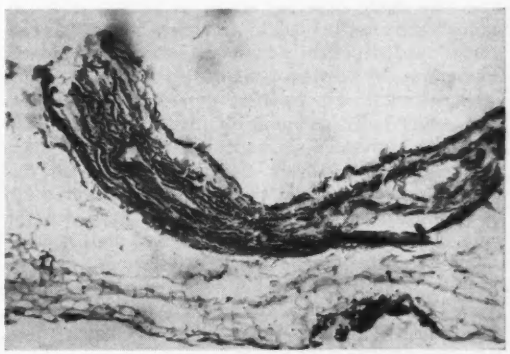

Figure 4.—Photomicrograph of the wall of the cyst (magnification 430×) shows the cyst lined by a single layer of mature mesothelial cells, supported by loose areolar tissue.

DISCUSSION

Cysts of the mediastinum were reported infrequently until Ringertz and Lidholm[10] reported 13 cases in 1956, which brought the totals reported in the medical literature to 31 pericardial cysts and 11 mediastinal lymphangiomas. Undoubtedly many patients with such lesions are not operated upon, particularly if diagnosis can be established by other means, such as thoracoscopy as suggested by Schein,[11] and many cases obviously are not reported. Emphasis in recent years, however, has been toward prompt removal of intrathoracic neoplasms (Lam,[8] 1947; Blades,[1] 1949; Hirschfield,[5] 1951). Accordingly, the reported incidence of mediastinal cysts as a cause of intrathoracic radiodensity varies from that of Blades' report[1] of 10 per cent to Bradford, Mahon, and Grow's report[2] of 20 per cent. Brewer and Dolley[3] observed that mass surveys employing chest roentgenograms revealed as many mediastinal tumors as cases of pulmonary tuberculosis. The further reporting and differentiation of mediastinal cysts is difficult since some observers recognize pericardial diverticulae as distinct from pericardial cysts, and many reports include cysts of "unclassified origin." The latter group of lesions

predominately appear in the anterior superior mediastinum, in contrast to anterior inferior pericardial relations of the other two categories (pericardial cysts or pericardial diverticulae). No instance of a pericardial cyst appearing infraxiphoid was found in a review of the literature of this subject. The majority of pericardial cysts are found at the cardiophrenic angles (17 of 29 cases in one series), occurring about twice as frequently from the right angle as from the left (17 and 19 respectively). A minority of pericardial cysts have an attachment higher on the anterior mediastinum (5 of 29 cases reported by Lillie, McDonald, and Clagett[9]).

Age of the patient at time of discovery of the mediastinal tumor is of some diagnostic importance. In childhood, the tumor is more likely a primary tumor of the pericardium than a cyst. No pericardial cysts have been reported in patients under 27 years of age. One of the early reports of "lymphatic cyst" was from an autopsy of an 86-year-old woman (Dufour,[4] 1929). Most observers now consider pericardial diverticulae and percardial cysts as the same entitv (Hirschfield[5]; Lillie, McDonald and Clagett[9]; and Leahy and Culver[7]). Differentiation of pericardial cysts from lymphangiomatous cysts has been clarified by reserving the former diagnosis for unilocular cysts (as in the present case), and the latter designation, lymphangiomatous cysts, for multilocular cysts.

Few symptoms were attributed to mediastinal cysts by early investigators, but Kisner and Reganis,[6] writing in 1950, said that symptoms occurred more frequently than was usually recognized. The cause for remission of the patient's symptoms in the present case was not apparent, but observation suggested that pain in the upper abdomen could be ascribed to the mediastinal cyst. Perhaps cutaneous hyperesthesia of the left chest wall was attributable to parietal peritoneal stretching. Pain of mediastinal origin has been defined as a vague pain by many observers, and clinical studies indicate that patients have difficulty localizing and accurately defining the nature of pain originating from the mediastinum. In no case in the reported experience of Lillie, McDonald, and Clagett,[9] and Kisner and Reganis[6] did palpation at physical examination indicate the possibility of the presence of a pericardial cyst. In the present case, diagnostic pneumoperitoneum was of help in objectively demonstrating a lesion of the anterior inferior mediastinum.

SUMMARY

In the case of mesothelial cyst of the anterior inferior mediastinum, probably of pericardial origin herein reported, the lesion was suspected from observations on physical examination. A unilocular cyst was palpated high in the epigastrium when the patient breathed deeply.

Mediastinal cysts, including pericardial cysts, can cause bizarre symptoms, including abdominal (epigastric) pain and cutaneous hyperesthesia.

Diagnostic pneumoperitoneum is of help in objectively demonstrating questionable lesions at the level of the diaphragm, and aided in the diagnosis of a pericardial cyst.

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Hydatidiform Mole Complicated by the Use of Progestogens

JOHN C. BODLE, M.D., Santa Rosa

THE DEVELOPMENT in the past five years of many steroid compounds having progestational properties has been greeted with enthusiasm. They have been tested by many investigators and found to produce the expected progestational manifestations, such as thermogenic effect, secretory changes in estrogen-primed endometrium, induction of withdrawal bleeding in castrate women primed with estrogen and in amenorrheic women with adequate endogenous estrogen production.[1,4,5,6]

I believe that in the case here reported the use of potent steroids so greatly enhanced the complications of a hydatidiform mole that the patient's life was jeopardized.

REPORT OF A CASE

The patient, a 26-year-old pregnant Caucasian woman with three children, whose last menstrual period occurred on March 23, 1958, was first observed in consultation on August 28, 1958. She had had an uneventful pregnancy until May 21, at which time she noted the onset of vaginal bleeding. From

Submitted November 12, 1959.

then on, spotting of blood occurred almost daily. The physician attending her had put her in hospital May 31. Administration of progesterone in oil, 100 mg. twice daily, was begun, as well as penicillin 300,000 units with 1.0 gm. streptomycin, given intramuscularly. Later the same day, Nugesterol® tablets* were prescribed, two immediately and one daily, as well as 25 micrograms of liothyronine (Cytomel®) a day by mouth.

Four days later the progesterone and corpus luteum injections were discontinued and norethindrone (Norlutin®), 5 mg. daily by mouth, was started. The patient was discharged from the hospital on June 5, 1958, with prescription of norethindrone, 5 mg. daily, and ethisterone, 15 mg. daily, until July 14. During this five-week period vaginal spotting continued although by the end of that time the uterus was palpated three fingerbreadths above the umbilicus. In the time since leaving the hospital the patient had also been given a sulfa vaginal cream; vitamin K, 5 mg. intramuscularly; and on two occasions Adrenosem® (adrenochrome monosemicarbazone sodium salicylate complex) one ampule containing 5 mg.

The brownish vaginal discharge was still present when the patient was again examined July 14, and 100 mg. of progesterone was given intramuscularly. At the same time the prescribed amount of norethindrone was increased to 5 mg. twice daily. On July 17, it was thought the fetal heart was heard. Again Adrenosem,® 5 mg., and vitamin K, 5 mg., were given intramuscularly. The patient was seen twice more between July 14 and August 28. Penicillin, 600,000 units intramuscularly, was given again on August 12 and a sulfa vaginal cream was prescribed for what was felt to be purulent endocervicitis.

On the morning of August 28, the patient reported a rather precipitous onset of acute, heavy vaginal bleeding and was admitted to the hospital in early hemorrhagic shock. The uterus was of a size consistent with the sixth month of gestation. Hydatid-like cysts were being expelled from the vagina. Because of difficulty in procuring adequate amounts of blood for transfusion, hysterotomy rather than curettement was decided upon. Vaginal bleeding continued at a rapid rate after transfusion of two units of blood and when the patient was moved to the operating room the blood pressure dropped to 80/40 mm. of mercury. Two additional units of blood were given and operation was begun.

The uterus was of the usual contour and size of a gravid uterus at approximately six months of gestation. The bladder flap was dropped from the lower uterine segment and the uterus was opened in the manner of a classical low cesarean section. Approximately five pounds of tissue (hydatidiform mole) was removed, and bleeding from the uterus was minimal. On attempting to trim away what remained of the shaggy decidual-like material, it was noted that it could be removed only in fragments and that in each area where this material was stripped from the uterus, bleeding swiftly increased. It appeared grossly that the decidual tissue was infiltrating the myometrium and, for this reason and because hemorrhagic shock already had occurred, it was deemed imperative to remove the uterus. This was done, the cervix also being removed without unnecessarily prolonging the operation. The loss of blood connected with this procedure was not great. The ovaries were approximately 9 cm. in diameter and both contained multiple cysts. The ovaries and tubes were left in place and the procedure was completed in the manner of a total abdominal hysterectomy.

The following day the blood pressure was 130/80 mm. of mercury and the pulse rate approximately 110. The packed cell volume was 23 per cent of the whole blood. The patient received a total of three units of blood after operation, making a total of seven units. The postoperative course was completely uneventful. Vaginal spotting continued for a week, then stopped and did not recur. After leaving the hospital the patient felt well, had no complaints referrable to the urinary tract and, at last report, had gained 11 pounds in body weight to 105 pounds.

On examination three months after operation, the ovaries were noted to be not more than 3 cm. in diameter. There were no abnormal masses. The result of a serum pregnancy test was negative. The packed cell volume was 39 per cent.

The pathologist reported: "Syntytial type cells as well as those of the Langhans layer exhibit a uniform histologic appearance and nuclear structure in all zones with no evidence of atypical appearance. The entire pattern is that of a hydatidiform mole structure. There is no evidence of myometrial invasion present."

A PARTIAL LIST OF AVAILABLE COMMERCIAL PROGESTOGENS

NORLUTIN — 17 - alpha - ethynil - 19 - nortestosterone (norethindrone) — (Parke, Davis and Company, Detroit. Also, Suntex Laboratories, Mexico City.)

ENOVID—Norethnodrel with ethynil estradiol 3-methyl ether—(G. D. Searle and Company, Chicago.)

COLPROSTERONE—Progesterone vaginal suppositories—(Ayerst Laboratories, New York.)

PRODOX—17-acetoxyprogesterone—(The Upjohn Company, Kalamazoo, Mich.)

DELALUTIN—17-alpha-hydroxyprogesterone caproate—(E. R. Squibb & Sons, New York.)

NILEVAR — 17-alpha-ethyl-17-hydroxy-norandrostenone —(G. D. Searle & Co., Chicago.)

PRANONE—17-ethinyl testosterone (ethisterone) — (Schering Corporation, Bloomfield, N. J.)

LUTOCYLOL—17-ethinyl testosterone (ethisterone)— (Ciba, Summit, N. J.)

BRAXORONE — 9-alpha-bromo-11-ketoprogesterone — (E. R. Squibb & Sons, New York.)

*Combination of ethisterone, 15 mg., with vitamins C, K and E.

DISCUSSION

The incidence of a hydatidiform mole is reported variously, from 1 in 728 pregnancies to 1 in 4,800 pregnancies.[2] In the case herein reported, uterine growth consistently was noted to be seemingly greater than was consistent with the gestational dates. Practically constant vaginal spotting for a period of three months was noted, as well as a serosanguinous discharge which the attending physician attributed to infection. A discharge of this kind is reported to occur in one-third of all cases of hydatidiform mole. Spontaneous expulsion of the mole occurs most frequently in the third or fourth month of gestation but, in rare instances, not until the fourteenth or even the seventeenth month after conception.[2] (By that time of course the products of conception are known to be abnormal.) The uterus grows at a sporadic rate; it may be term size at the end of two or three months, or it may be smaller than is consistent with the duration of pregnancy. The significant point in the present case, however, is that the patient continued to have spotting and vaginal discharge for three months before passing some tissue that was obviously that of a mole. The top of the uterus at that time was 24 cm. above the symphysis. The patient had been receiving progesterone, as well as 5 mg. of norethindrone and 15 mg. of ethisterone daily for a period of six weeks; then 15 mg. of ethisterone and 10 mg. of norethindrone daily for an additional six weeks.

Of course, one can only speculate that these progestogens delayed abortion in this case but reports by other observers strongly support the conjecture.[7,8] It is generally felt that 10 mg. of norethindrone a day gives the same effect as 50 mg. a day of progesterone. Indeed, several investigators who have reported on the use of progestogens in threatened abortion have noted that missed abortion can well be considered a sequel to the use of progestogen therapy.[7,8]

It would appear, from the case presented, that there may be real danger in connection with the use of progestogens: perhaps certain kinds of abnormal pregnancy may continue for longer periods than they normally would, owing to the effects of the potent progestogens now available (see list on page 43). Malignant degeneration of placental tissue did not develop in the present case; but one may speculate that it might occur, eventually, in tissue that might better have been expelled earlier. A hysterectomy might not have been necessary had the spontaneous termination of pregnancy been permitted to continue. It appears that the incidence of missed abortions can be expected to be between 20 and 40 per cent when therapeutic dosages of potent progestogens are administered after spontaneous abortion threatens.

SUMMARY

In the case reported, multiple progestogens were used and there was prolonged inhibition of spontaneous expulsion of the products of conception. This resulted in a tremendous loss of blood and a life-threatening situation with hydatidiform molar degeneration of the placental tissue.

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Spontaneous Carotid-Cavernous Fistula Due to Ruptured Cerebral Aneurysm

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CONSIDERING THE FREQUENCY of aneurysms arising from the infraclinoid portion of the internal carotid artery, it is surprising that spontaneous rupture of these lesions into the cavernous sinus does not occur more often. Walker[8] stated that the intracavernous segment of the internal carotid artery is predisposed to fistula formation by an inherent weakness in its structures. Locke[5] in a review of 544 cases of carotid-cavernous fistula reported in the literature, noted that trauma was the cause in 76.8 per cent. Although there remains a considerable proportion due to other factors, relatively few cases have been reported in which spontaneous rupture of an aneurysm was the immediate cause. The following case illustrates this less well-known feature of carotid-cavernous fistula.

Submitted October 28, 1959.

REPORT OF A CASE

The patient was a 73-year-old housewife who was first observed January 12, 1956, on referral from another physician. Two weeks previously she had been awakened at night by intense pain in the left orbitofrontal region. Not until morning did she

notice that ptosis had developed, for she had held her hand over the affected eye because of pain. In the next 24 hours she vomited frequently. Then a throbbing sensation in her head began, but she did not interpret it as a bruit. She did not complain of diplopia, although she admitted that on elevating her upper lid manually she "could not see so well" with the affected eye. A week after onset of symptoms she noticed that the left eye was quite reddened. During the second week she began to feel much better but became concerned because of increasing congestion of the orbit and protrusion of the eye. Except for an appendectomy in 1922 and removal of a nodule from the thyroid gland in 1945 she had been in excellent health all her life.

On examination moderate exophthalmos of the left eye was noted, but pulsations were barely perceptible. The lid was completely closed. When the upper lid was retracted, pronounced congestion of the conjunctiva and moderate chemosis were observed. The pupil was moderately dilated and irregular in shape. It did not react to direct stimulation, and the consensual reflex was also absent. The globe was fixed in abduction. The optic disc was slightly indistinct and decidedly hyperemic. Vision was greatly reduced and the peripheral field of the left eye was constricted. Orbital auscultation revealed a loud, harsh, machinery-type murmur transmitted over the entire head, but especially over the left frontal and maxillary sinuses and left temporal fossa. Compression of the left common carotid artery greatly decreased the intensity of the bruit. Compression of the corresponding vessel on the right did not alter the sound. Pulsation of the right common carotid artery was palpably much greater than that of the left, while the external jugular vein on the left was at least twice the size of the like vessel on the right when the patient was supine. Hypesthesia of the left supraorbital area and frontal scalp was noted. The corneal reflex was decreased. The superior oblique muscle was paralyzed.

The blood pressure was 120/80 mm. of mercury. The patient appeared much younger than her actual age, and the peripheral vessels were remarkably soft.

On admission to hospital January 15, 1956, routine x-ray films of the skull and chest showed no abnormality. A left cerebral arteriogram the next day showed a large dome-shaped aneurysm 1.0 cm. in diameter arising from the floor of the middle fossa with its apex at the level of the diaphragma sellae (Figure 1). The details of the base of the lesion could not be delineated clearly, for the dye within the cavernous sinus obliterated the carotid siphon. The ophthalmic veins were readily distinguished. In the early phase no filling of the anterior or middle cerebral arteries was detected but a trace of dye was seen in the middle cerebral artery in the late films. A right cerebral arteriogram was then performed, revealing a quite normal pattern without evidence of cross-communication (Figure 2). Two

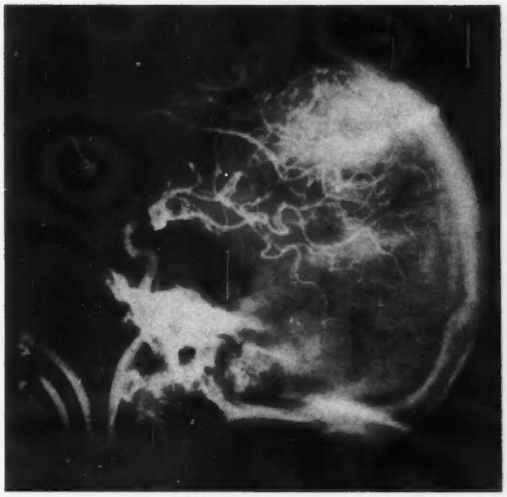

Figure 1.—Right cerebral arteriogram (unaffected side) showing normal vascular patterns.

Figure 2.—Left cerebral arteriogram (unretouched) showing location of the aneurysm and nonfilling of the carotid branches.

days later digital compression of the vessels in the neck did not cause discomfort. The left common carotid artery could be compressed for ten minutes without visible effect.

At operation on January 19, the carotid bifurcation was exposed. The external carotid artery was ligated just proximal to the external maxillary takeoff. The internal carotid artery was then occluded with a clamp for ten minutes without change in the pulse, respiration or blood pressure. The ligature was then made proximal to the clamp, and the wound was closed.

The patient was dismissed from the hospital January 26 with pronounced lessening of orbital congestion and exophthalmos, and much relief of

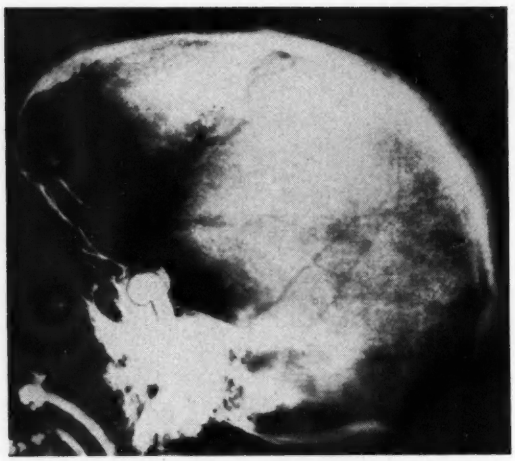

Figure 3.—Left cerebral arteriogram (retouched) to demonstrate more clearly the dome-shaped aneurysm involving the cavernous sinus.

the ocular and supraorbital pain. The bruit could still be heard but was much less intense. Soon thereafter proptosis became more pronounced with increase in orbital congestion. Considerable ocular pain returned, accompanied by nausea. Extensive subconjunctival hemorrhage developed in the left eye.

The patient was readmitted to hospital February 20, 1956. At that time the bruit could not be heard. There was complete ptosis of the left upper lid, with proptosis estimated at 3 to 4 mm. Extensive subconjunctival hemorrhage was noted. The left eye was fixed in position. The cornea was opaque and edematous due to increased intraocular tension. The pupil was irregular, semidilated and did not react to light. No fundus details were discernible due to corneal opacity. Visual acuity of the left eye was reduced to seeing only hand movements. A tentative diagnosis of hemorrhage into the left orbit and acute glaucoma was made. Treatment was suffusion of the left eye with pilocarpine hydrochloride 2 per cent solution every two hours, and administration of Diamox® (acetazoleamide) 250 mg. orally three times.

The swelling of the lid diminished gradually and the intraocular tension decreased. By the end of the first week it was possible to see that extensive hemorrhage into the left vitreous had occurred. At the time of dismissal on March 7, 1956, the patient still had a fixed pupil and external ophthalmoplegia but proptosis had lessened. The vitreous had cleared somewhat and peripheral retinal vessels were visible in one quadrant. By May 15, 1956, the patient could read large print with her left eye. Proptosis had completely subsided. The left pupil was still fixed, but the eye could be adducted to the central position.

In October 1956 the patient collapsed while in church and was briefly unconscious. Recovery was prompt, and there was no apparent change in her physical condition. In November 1957 she had a bout of supraorbital pain on the left for two weeks. This subsided after six injections of vitamin B_{12}, 1,000 micrograms per dose three times weekly for two weeks.

At the time of last ophthalmologic examination, June 6, 1958, the left pupil was still irregular and fixed in semidilation. The optic disc was pale and slightly cupped. Intraocular tension was normal. Peripheral fields in the left eye showed concentric constriction. Corrected visual acuity in the left eye was 20/100. When the patient was seen last, February 2, 1959, her condition was unchanged. On November 11, 1959, she died three hours after being injured in a vehicle accident. At autopsy the cause of death was found to be massive hemothorax. There was also a simple fracture of the left temporal bone. A thin layer of blood was dispersed over the left frontotemporal area of the brain but the aneurysm was intact.

On examination of the carotid siphon, a large saccular aneurysm with thick walls projecting forward and laterally into a concavity in the sphenoid bone was noted. The dome-like fundus of the aneurysm projected upward alongside the sella turcica but it was completely intact and the lumen patent. Its interior communicated with the carotid artery by a generous opening. The carotid system distal to the aneurysm was patent.

DISCUSSION

In this case the appearance of the patient was typical of pulsating exophthalmos. Spontaneous rupture of a preexisting cerebral aneurysm into the cavernous sinus was the apparent etiological basis. Nonfilling or incomplete filling of the vascular tree above the aneurysm on arteriography in the absence of pyramidal tract findings indicated that the internal carotid artery could probably be ligated with safety, which agrees with the opinion expressed by Koskinen[4] in a report of five similar cases. Persistence of the bruit following ligation indicated some cross-circulation, too minute to appear in the arteriogram. The partial recurrence of symptoms a month after ligation was probably due to retro-orbital hemorrhage with secondary glaucoma and vitreous hemorrhage. This appeared to have been followed by complete occlusion of the remaining fistulous connections.

Martin and Mabon[6] in 1943 reviewed all reported cases of pulsating exophthalmos in the literature. They tabulated 812 cases and added five that they had observed. They did not cite rupture of a cerebral aneurysm as the etiological factor. However, Elliot[2] in 1954 reported ten cases, but trauma was the causal factor in each. Glaucoma occurred in three of these cases and in one enucleation was necessary. Boyes and Ralph[1] in 1954 described two cases of spontaneous carotid-cavernous fistula. In neither case was arteriography performed nor was any surgical treatment rendered. Both patients recovered

completely. Tamler[7] in 1953 reported a case in which the fistula was on the side opposite the exophthalmos, and he reviewed four other such cases in the literature.

In a series of 24 cases of carotid-cavernous fistula reported by Walker,[8] 14 were due to trauma and ten were spontaneous in onset. This is an unusually high incidence of the latter variety. Florin[3] in 1958 reported a case with bilateral aneurysms of the internal carotid arteries and spontaneous carotid-cavernous fistula in a 72-year-old woman and was able to find reports of only 15 similar cases in the literature.

It is likely that with the increasing number of patients reaching the older age groups, spontaneous carotid-cavernous fistulas will be seen more frequently.

SUMMARY

A case of spontaneous carotid-cavernous fistula is presented. The unusual features were the relationship to an aneurysm of the left internal carotid artery and complications of orbital hemorrhage, glaucoma and vitreous hemorrhage. Arteriography confirmed the lesion. Ligation of the cervical segment of the internal carotid artery was performed with satisfactory result.

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California MEDICINE

For information on preparation of manuscript, see advertising page 2

THE RESPONSIBILITY FOR MEDICAL CARE

The following statement of policy was adopted by the House of Delegates of the American Medical Association at its recent annual meeting in Miami Beach:

"Personal medical care is primarily the responsibility of the individual. When he is unable to provide this care for himself, the responsibility should properly pass to his family, the community, the county, the state, and only when all these fail, to the federal government, and then only in conjunction with the other levels of government, in the above order. The determination of medical need should be made by a physician and the determination of eligibility should be made at the local level with local administration and control. The principle of freedom of choice should be preserved. The use of tax funds under the above conditions to pay for such care, whether through the purchase of health insurance or by direct payment, provided local option is assured, is inherent in this concept and is not inconsistent with previous actions of the House of Delegates of the American Medical Association."

EDITORIAL

The A.M.A. 1960 Session

IN THE HEAT and humidity of Miami Beach, which even the constant breeze from the Gulf Stream could not counteract, the American Medical Association held its 1960 Annual Session in mid-June.

Whether because of weather conditions, a strike by airline pilots or other reasons, or the fact that it was held in a corner of the country, the meeting fell far below expectations and the experience of former years. Attendance was minimal and the general atmosphere seemed lacking in enthusiasm, despite an excellent scientific program and the usual stupendous array of scientific and technical exhibits.

Even on the business side, handled by the House of Delegates, lassitude was the order of the day. Where in past years there have generally emerged one or more issues of importance, the grist fed into the policy-making mill this year was relatively poor in both quality and quantity.

About 50 resolutions were placed before the House of Delegates, covering a multiplicity of subjects but mainly not constituting matters of prime importance. The one possible exception was in the field of health care for the aged, where several states made proposals for the establishment of A.M.A. actions or attitudes.

Some of the more important items handled by the House are summarized below.

Prepayment Congress—The House of Delegates agreed that more sessions should be held for the discussion of prepayment health insurance, with consumers, labor, management and insurance interests participating. Such a conference was recently held in Chicago and the results were gratifying to the point of planning for further regional gatherings along the same lines.

Physicians and Social Security—The House reaffirmed the stand taken on several previous occasions, in opposition to the compulsory inclusion of physicians under the OASDI provisions of the Social Security Act. At the same time this action was being taken in Miami Beach, the Ways & Means Committee of the House of Representatives in Washington was reporting out an omnibus Social Security amendment bill which *would require* physicians, as self-employeds, to come under the Social Security banner. Apparently the voice of the A.M.A. in Florida did not carry to Washington.

Tax Reform—The House considered a resolution to urge A.M.A. support of a bill now before Congress to reduce corporate and personal income taxes and to establish more liberal depreciation allowances for tax purposes. While the House did not approve the resolution with these stated objectives, it did pass a substitute measure designed to "return

to the states and their political subdivisions their traditional revenue sources and to allow American citizens to enjoy the fruits of their labor." Here again it is doubtful that the A.M.A. voice carried to the national capitol.

Physicians' Services—A resolution was adopted to establish the phrase "physicians' services" as a part of the medical lexicon. The object of this proposal is to set forth these services as the professional portion of the total health care of the patient. If this can be accomplished, the public may be made aware of the fact that the total costs of health care include many costs in addition to the sum received by the physician.

Health Care of the Aged—This topic attracted more resolutions than any other at the Miami Beach session. In addition to several anti-Forand resolutions, specific proposals were advanced by Nebraska, District of Columbia, Tennessee and California.

These resolutions were referred to several reference committees and were reported upon by two. In the main the reference committee reports, adopted by the House of Delegates, followed the philosophy, if not the exact language, of the California resolution. Quotations from these reports are given here to show the parallel thinking of the A.M.A. House of Delegates and the C.M.A. Council, which approved the original resolution and asked that it be placed before the A.M.A.

One reference committee urged that the policy of the A.M.A. be as follows: "Personal medical care is primarily the responsibility of the individual. When he is unable to provide this care for himself, the responsibility should properly pass to his family, the community, the county, the state, and only when all these fail, to the federal government, and then only in conjunction with the other levels of government in the above order.

"The determination of medical needs should be made by a physician and the determination of eligibility should be made at the local level with local administration and control. The principle of freedom of choice should be preserved.

"The use of tax funds under the above conditions to pay for such care, whether through the purchase of health insurance or by direct payment, provided local option is assured, is inherent in this concept and is not inconsistent with previous actions of the House of Delegates of the American Medical Association."

From another reference committee came approval of the California resolution, which stated the same principles for the allocation of responsibility. This resolution showed that where the individual is able to provide for his own health care, "government at any level has no role." Continuing through the same steps of governmental echelons as shown above, the resolution stated that "only as a last resort is federal government participation warranted."

Also included in the resolution was the proposal that the A.M.A. "initiate a nonpartisan open assembly to which all interested representative groups are invited, for the purpose of developing the specifics of a sound approach to the health services and facilities needed by the aged, and that thereafter the American Medical Association present its findings and positive principles to the people."

While it is gratifying to have one's own suggestions approved by the national body, it is even more satisfying to see the representatives of the nation's physicians come to grips with a problem of national importance and come up with a positive program for handling it.

The resolutions approved by the House of Delegates run completely contrary to Mr. Forand's approach. The Congressman took the easy way out, by assuming that Government must intervene. If his views were to carry through Congress, the country would have upon its back a Social Security System that could have no intention, certainly, of ever getting smaller. There are already grave doubts in the minds of many thinking persons as to the soundness, both financial and philosophical, of the Social Security System. With a Forand-type hospital-surgical-nursing home amendment tacked on, the system would straddle over an even larger area and create still further tax problems for future generations.

The members of the A.M.A. House of Delegates are to be congratulated on their prompt recognition of a social problem of the day, on their calm appraisal of it in terms of human life and human dignity and on their willingness to submit the matter to the cold and searching review envisaged in the resolutions adopted.

It must be said that the medical profession encourages personal and individual initiative and, at the same time, recognizes the true role of Government when it is necessary to abdicate personal responsibilities because of inability to discharge them. Government must remain the servant of the people, not the master.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Actions of the A.M.A. House of Delegates

This summary from the Executive Vice-President's office of the American Medical Association covers only a few of the many important subjects dealt with by the House and is not intended as a detailed report on all actions taken.

Health care for the aged, pharmaceutical issues, occupational health programs, relations with allied health groups and relations with the National Foundation were among the major subjects involved in policy actions by the House of Delegates at the American Medical Association's 109th Annual Meeting held June 13 through 17 in Miami Beach.

Dr. Leonard W. Larson of Bismarck, N. D., former chairman of the A.M.A. Board of Trustees and of the A.M.A. Commission on Medical Care Plans, was named president-elect by unanimous vote. Dr. Larson will succeed Dr. E. Vincent Askey of Los Angeles as president at the Association's annual meeting in June, 1961, at New York City.

The A.M.A. 1960 Distinguished Service Award, one of medicine's highest honors, was given to Dr. Charles A. Doan, who will retire next year as dean of the Ohio State University College of Medicine and director of the Health Center in Columbus, Ohio.

Total registration through Thursday, with half a day of the meeting still remaining, had reached 19,107, including 8,706 physicians.

Health Care for the Aged

After considering a variety of reports, resolutions and comments on the subject of health care for the aged, the House of Delegates adopted the following statement as official policy of the American Medical Association:

"Personal medical care is primarily the responsibility of the individual. When he is unable to provide this care for himself, the responsibility should properly pass to his family, the community, the county, the state, and only when all these fail, to the federal government, and then only in conjunction with the other levels of government, in the above order. The determination of medical need should be made by a physician and the determination of eligibility should be made at the local level with local administration and control. The principle of freedom of choice should be preserved. The use of tax funds under the above conditions to pay for such care, whether through the purchase of health insurance or by direct payment, provided local option is assured, is inherent in this concept and is not inconsistent with previous actions of the House of Delegates of the American Medical Association."

The House also urged the Board of Trustees "to initiate a nonpartisan open assembly to which all interested representative groups are invited for the purpose of developing the specifics of a sound approach to the health service and facilities needed by the aged, and that thereafter the American Medical Association present its findings and positive principles to the people."

In connection with an educational program regarding the aged, the House declared that "the American Medical Association increase its educational program regarding employment of those over 65, emphasizing voluntary, gradual and individualized retirement, thereby giving these individuals not only the right to work but the right to live in a free society with dignity and pride."

Earlier, at the opening session, Dr. Louis M. Orr, retiring A.M.A. president, had asked the House to go on record favoring more jobs for the aged, voluntary retirement and a campaign against discrimination because of age, whether it be 40 or 65. The House also gave wholehearted approval to Dr. Askey's urging that state medical societies take an active part in state conferences and other planning activities preceding the January, 1961, White House Conference on Aging.

Pharmaceutical Issues

In the pharmaceutical area the House took two actions—one regarding mail order drug houses and the other involving the development and marketing of pharmaceutical products.

The House agreed with representatives of the pharmacy profession that the unorthodox practice of mail order filling of prescription drugs is not in the best interest of the patient, except where unavoidable because of geographic isolation of the patient. The statement pointed out that in this process the direct personal relationship, which exists between the patient-physician-pharmacist at the community level and which is essential to the public health and the welfare of patients, is lost.

The House also directed the Board of Trustees to request the Council on Drugs and other appropriate Association councils and committees "to study the pharmaceutical field in its relationship to medicine and the public, to correlate available material, and after consultation with the several branches of clinical medicine, clinical research, and medical education and other interested groups or agencies, submit an objective appraisal to the House of Delegates in June, 1961." The statement pointed out that certain proposals have been made which, if carried out, might impair the future of pharmaceutical research and development, thus retarding the progress of scientific therapy. It also said that the services of the pharmaceutical industry are so vital to the public and to the medical profession that an objective study should be made.

Occupational Health Programs

The House approved a revised statement on the "Scope, Objectives and Functions of Occupational Health Programs," which was originally adopted in June, 1957. The new statement contains no fundamental alterations in A.M.A. policy or ethical relationships, but it adds important new material on the following points:

1. Greater emphasis on the preventative and health maintenance concepts of occupational health programs.

2. A more positive statement of organized medicine's obligation to provide leadership in improving occupational health services by part-time physicians in small industry.

3. Increased emphasis on rehabilitation of the occupationally ill and injured.

4. Inclusion of the proper use of immunization procedures for employees, as approved by the House in 1959.

5. A more adequate statement on the need for teamwork with lay industrial hygienists in tailoring each occupational health program to the particular employee group involved.

In approving the revised guides for occupational health programs, the House also accepted a suggestion that the A.M.A. Council on Occupational Health undertake a project to study and encourage the employment of the physically handicapped.

Allied Health Groups

The House approved the final report of the Committee to Study the Relationships of Medicine with Allied Health Professions and Services and commended it as "a monumental work." The report covers the present situation, future implications and recommendations, including guiding principles and approaches to activate physician leadership. The House strongly recommended that A.M.A. activity in this vitally important area be continued and it approved the appointment of a Board of Trustees committee to carry on the work.

To develop physician leadership in promoting cooperative efforts with allied health professions and services, the report suggested the following A.M.A. activities:

1. A general conference should be held with allied scientists in the basic medical sciences and related disciplines for discussion of matters of common concern related to the creation of permanent, cooperative activities.

2. Specific exploratory conferences should be held with members of segments of science allied to a given area of medical practice with the national medical organizations concerned.

3. General and specific conferences should be held with professional and technical assistants on education, recruitment and coordination of contributions.

4. Through meetings and publications, reciprocal exchange of information should be provided be-

tween physicians and allied scientists and members of health professions.

5. Effective, continuing liaison should be established between A.M.A. representatives and professional and technical personnel.

National Foundation

The House took two actions involving relations between the medical profession and the National Foundation. It adopted a statement of policies for the guidance of state medical associations and recommended that they be adopted by all component medical societies. These policies cover such subjects as membership of medical advisory committees at the chapter level, the function of these committees, and basic principles concerning financial assistance for medical care, payment for physicians' services and physicians' responsibilities for constructive leadership in medical advisory activities.

In another action the House directed the Board of Trustees to authorize further conferences with leaders in the National Foundation on the problem of poliomyelitis as it relates to the betterment of the public health and to consider further joint action toward the eradication of polio. The House commended the National Foundation for its outstanding service in the attack against poliomyelitis, but pointed out that much work remains to be done in public education, vaccination, continuing assistance for poliomyelitis victims and continued research.

Miscellaneous Actions

In dealing with reports and resolutions on a wide variety of other subjects, the House also:

Strongly reaffirmed its support of the **Blue Shield concept** in voluntary health insurance and approved specific recommendations concerning A.M.A. Blue Shield relationships;

Approved a contingent appointment of not more than six months for **foreign medical school graduates** who have been accepted for the September, 1960, qualification examination;

Agreed that the American Medical Association should sponsor a **second National Congress on prepaid health insurance;**

Approved a Board of Trustees request to the Postmaster General for a stamp commemorating the **Mayo Brothers;**

Decided that the establishment of a home for **aged and retired physicians** is not warranted at this time.

Approved the establishment of a new **"Scientific Achievement Award"** to be given to a nonphysician scientist on special occasions for outstanding work;

Approved the following schedule for future **annual meetings:** Atlantic City, 1963; San Francisco, 1964, and New York City, 1965;

Approved the objectives of the A.M.A. **Commission on the Cost of Medical Care** established by the Board of Trustees and headed by Dr. Louis M. Orr, immediate past president of the Association;

Urged individual members of the Association to take a greater interest and more active part in **public affairs** on all levels;

Reaffirmed its opposition to compulsory inclusion of physicians under Title II of the **Social Security** Act and recommended immediate action by all A.M.A. members who agree with that position;

Called for a review of existing and proposed legislation pertaining to **food and color additives,** with the objective of supporting appropriate measures which are in the public interest;

Urged reform of the **federal tax structure** so as to return to the states and their political subdivisions, their traditional revenue sources;

Asked state and county medical societies to make greater use of A.M.A. **recruitment materials** in presenting medicine's story to the nation's high schools;

Requested the Board of Trustees to initiate a study of present policy regarding the required content and method of preparing **hospital records;**

Commended the Department of Defense and the Air Force for establishing and operating the **Aeromedical Transport Service** and urged that it be maintained at optimum efficiency;

Directed the Board of Trustees to develop **group annuity** and **group disability** insurance programs for Association members; and

Expressed grave concern over the indiscriminate use of **contact lenses.**

Addresses and Awards

Dr. Orr, in his final report to the House at the opening session, urged medical societies to "adopt" rural villages, cities and regions in underdeveloped parts of the world and to send them medical, clinical and hospital supplies.

Dr. Askey, in his inaugural address, declared that medicine faces its greatest challenge in the decade ahead, adding that physicians must prove the effectiveness of medicine practiced in a free society. Dr. John S. Millis (Ph.D.), president of Western Reserve University, Cleveland, Ohio, and guest speaker at the inaugural ceremonies, said the human dilemma of the sixties in an increasing desire for security and authority with a diminishing desire for responsibility.

At the Wednesday session of the House, Dr. Askey urged intensified, accelerated effort in five

areas—medical education, preparations for the White House Conference on Aging next January, health insurance and third party relationships, mental health, and membership relations.

The Goldberger Award in Nutrition was presented to Dr. Richard Vilter of the University of Cincinnati. The Boy Scouts of America, celebrating its golden jubilee, presented the A.M.A. with a citation in appreciation of the medical profession's help and support. Dr. B. E. Pickett of Carrizo Springs, Texas, retiring chairman of the Council on Constitution and Bylaws, received an award in recognition of his long service.

Election of Officers

In addition to Dr. Larson, the new president-elect, the following officers were named at the Thursday session:

Dr. William F. Costello of Dover, N. J., vice-president; Dr. Norman A. Welch of Boston, re-elected speaker of the House, and Dr. Milford O. Rouse of Dallas, Texas, reelected vice-speaker.

Dr. Gerald D. Dorman of New York City was elected to the Board of Trustees to succeed Dr. Larson, and Dr. James Z. Appel of Lancaster, Pa., was reelected to the Board.

Elected to the Judicial Council, to succeed Dr. Louis A. Buie of Rochester, Minn., was Dr. James H. Berge of Seattle.

Named to the Council on Medical Education and Hospitals were Dr. William R. Willard of Lexington, Ky., succeeding Dr. James M. Faulkner of Cambridge, Mass., and Dr. Harlan English of Danville, Ill., who was reelected.

On the Council on Medical Service, the House reelected Dr. Russell B. Roth of Erie, Pa., and Dr. Hoyt B. Woolley of Idaho Falls.

Dr. George D. Johnson of Spartanburg, S. C., was named to succeed Dr. Pickett on the Council on Constitution and Bylaws.

F. J. L. BLASINGAME, M.D.
Executive Vice-President
American Medical Association

In Memoriam

ATKINSON, CHARLES EDWIN. Died in San Bernardino, May 6, 1960, aged 75. Graduate of the University of Southern California School of Medicine, Los Angeles, 1907. Licensed in California in 1907. Doctor Atkinson was a member of the Riverside County Medical Society.

✤

ATWOOD, ALTON CURTIS. Died in Modesto, March 25, 1960, aged 62. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1925. Licensed in California in 1927. Doctor Atwood was an associate member of the Stanislaus County Medical Society.

✤

BERENDS, EMMO DIEDRICH. Died in San Diego, April 2, 1960, aged 63, of coronary thrombosis. Graduate of the University of Louisville School of Medicine, Kentucky, 1921. Licensed in California in 1923. Doctor Berends was a member of the San Diego County Medical Society.

✤

BOGEN, ESTHER. Died in Pasadena, March 14, 1960, aged 58. Graduate of the University of Cincinnati College of Medicine, Ohio, 1927. Licensed in California in 1942. Doctor Bogen was a member of the Los Angeles County Medical Association.

✤

BOWER, CHARLES FRANKLIN. Died October 25, 1959, aged 90. Graduate of George Washington University School of Medicine, Washington, D. C., 1907. Licensed in California in 1920. Doctor Bower was a member of the Los Angeles County Medical Association.

BRADLEY, MILLARD CALVIN. Died April 4, 1960, aged 53. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1937. Licensed in California in 1937. Doctor Bradley was a member of the Los Angeles County Medical Association.

✤

CASE, JAMES THOMAS. Died in Santa Barbara, May 24, 1960, aged 78, of cancer. Graduate of American Medical Missionary College, Battle Creek, Michigan, and Chicago, Illinois, 1905. Licensed in California in 1921. Doctor Case was a member of the Santa Barbara County Medical Society.

✤

CHAN, HUBERT. Died in San Francisco, May 16, 1960, aged 29, of granulocytic leukemia. Graduate of the University of Louisville School of Medicine, Kentucky, 1956. Licensed in California in 1957. Doctor Chan was an associate member of the Alameda-Contra Costa Medical Association.

✤

CUNHA, FELIX. Died in San Francisco, May 17, 1960, aged 64. Graduate of Tufts University School of Medicine, Boston, Massachusetts, 1917. Licensed in California in 1930. Doctor Cunha was a member of the San Francisco Medical Society.

✤

DIVEN, GEORGE R. Died in Los Angeles, June 5, 1960, aged 84, of cancer. Graduate of the University of Illinois College of Medicine, Chicago, 1901. Licensed in California in 1910. Doctor Diven was a member of the Los Angeles County Medical Association.

DUBOIS, MORRIS G. Died March 18, 1960, aged 68. Graduate of Fordham University School of Medicine, New York, 1921. Licensed in California in 1941. Doctor Dubois was a member of the Los Angeles County Medical Association.

✤

FROSTIG, JACOB P. Died in Los Angeles, October 21, 1959, aged 63, of a coronary. Graduate of the University of Vienna, Austria, 1921. Licensed in California in 1946. Doctor Frostig was a member of the Los Angeles County Medical Association.

✤

LANCE, VERNE LEE. Died in Fresno, April 24, 1960, aged 50. Graduate of Emory University School of Medicine, Emory University, Georgia, 1936. Licensed in California in 1949. Doctor Lance was a member of the Fresno County Medical Society.

✤

LANE, CLAYTON ROGERS. Died in Santa Monica, June 5, 1960, aged 72. Graduate of the University of Vermont College of Medicine, Burlington, 1914. Licensed in California in 1919. Doctor Lane was a member of the Los Angeles County Medical Association.

✤

ROBERTS, WILLIAM B. Died in an airplane crash near Nogales, Arizona, May 13, 1960, aged 53. Graduate of State University of New York College of Medicine at New York City, Brooklyn, New York, 1942. Licensed in California in 1945. Doctor Roberts was a member of the Alameda-Contra Costa Medical Association.

✤

SILVIS, RICHARD S. Died in Oakland, May 5, 1960, aged 53, of acute recurrent hepatitis and jaundice due to cirrhosis. Graduate of the University of Nebraska College of Medicine, Omaha, 1931. Licensed in California in 1948. Doctor Silvis was a member of the Alameda-Contra Costa Medical Association.

✤

SMITH, LEVI ALLEN (L. ALLEN). Died in Los Angeles, May 2, 1960, aged 38. Graduate of State University of New York College of Medicine at New York City, Brooklyn, N. Y., 1946. Licensed in California in 1952. Doctor Smith was a member of the Los Angeles County Medical Association.

✤

SMITH, PAUL NORTON. Died in Oxnard, May 7, 1960, aged 53, of heart disease. Graduate of Rush Medical College, Chicago, Illinois, 1936. Licensed in California in 1942. Doctor Smith was a member of the Ventura County Medical Society.

✤

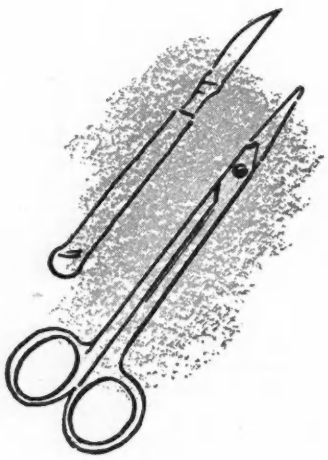
STOLL, EDWARD M. Died May 9, 1960, aged 46, of cancer. Graduate of University of Nebraska College of Medicine, Omaha, 1941. Licensed in California in 1946. Doctor Stoll was a member of the Los Angeles County Medical Association.

✤

TIMON, ALONZO NELSON. Died May 13, 1960, aged 64. Graduate of Vanderbilt University School of Medicine, Nashville, Tennessee, 1921. Licensed in California in 1925. Doctor Timon was a member of the Los Angeles County Medical Association.

✤

TOOMEY, FRANCIS ELMER. Died in San Diego, June 7, 1960, aged 60. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1926. Licensed in California in 1927. Doctor Toomey was a retired member of the San Diego County Medical Society and the California Medical Association, and an associate member of the American Medical Association.



Annual Meeting

Ambassador Hotel
LOS ANGELES

April 30 to May 3, 1961

Papers for Presentation

If you have a paper that you would like to have considered for presentation, it should be submitted *to the appropriate section secretary* (see list on this page) no later than November 15, 1960.

Scientific Exhibits

Space is available for scientific exhibits. If you would like to present an exhibit, please write immediately to the office of the California Medical Association, 693 Sutter Street, San Francisco 2, for application forms. To be given consideration by the Committee on Scientific Work, the forms, completely filled out, must be in the office of the California Medical Association no later than November 15, 1960. (No exhibit shown in 1960, and no individual who had an exhibit at the 1960 session, will be eligible until 1962.)

Medical Motion Pictures

The daytime Film Symposiums which proved so popular during the 1959 and 1960 sessions will be continued in 1961. Evening film programs will be planned for doctors, their wives, nurses and ancillary personnel.

Authors desiring to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Blvd., Los Angeles 5. All authors are urged to be present at the time of showing as there will be time allotted for discussion and questions from the audience after each film.

Deadline: November 1, 1960.

PLANNING MAKES PERFECT
AN EARLY START HELPS

SECRETARIES OF SCIENTIFIC SECTIONS

ALLERGY . . . . . **Gardner S. Stout**
39 North San Mateo Drive, San Mateo

ANESTHESIOLOGY . . . . . **Gilbert E. Kinyon**
5252 Chelsea Avenue, La Jolla

DERMATOLOGY AND SYPHILOLOGY . **Paul M. Crossland**
1120 Montgomery Drive, Santa Rosa

EAR, NOSE AND THROAT . . . **Marvin W. Simmons**
1020 East McKinley Avenue, Fresno

EYE . . . . . **Floyd M. Bond**
625 Broadway, San Diego 1

GENERAL PRACTICE . . . . . **A. J. Franzi**
3620 Army Street, San Francisco 10

GENERAL SURGERY . . . . . **William P. Mikkelsen**
1930 Wilshire Boulevard, Los Angeles 57

INDUSTRIAL MEDICINE AND SURGERY . . . . . **John H. Leimbach, Jr.**
525 Golden Gate Avenue, San Francisco 1

INTERNAL MEDICINE . . . . . **Clifford B. Cherry**
2400 Beverly Boulevard, Los Angeles 57

OBSTETRICS AND GYNECOLOGY . . **Edward F. Healey**
711 D Street, San Rafael

ORTHOPEDICS . . . . . **Bret W. Smart**
2929 Summit Street, Oakland 9

PATHOLOGY AND BACTERIOLOGY . **George J. Hummer**
1328 22nd Street, Santa Monica

PEDIATRICS . . . . . **Harry O. Ryan**
194 North El Molino, Pasadena 4

PHYSICAL MEDICINE . . . . **S. Malvern Dorinson**
450 Sutter Street, San Francisco 8

PSYCHIATRY AND NEUROLOGY . . . **Robert E. Wyers, Mark Zeifert**
Psychiatry: Robert E. Wyers, Metropolitan Hospital, Norwalk
Neurology: Mark Zeifert, 1065 S Street, Fresno 21

PUBLIC HEALTH . . . . . **Ellis D. Sox**
101 Grove Street, San Francisco 2

RADIOLOGY . . . . . **John R. Bryan**
450 Sutter Street, San Francisco 8

UROLOGY . . . . . **Sam Peck**
233 A Street, San Diego 1

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.
Director, State Department of Public Health

IN ORDER TO DOCUMENT more completely the adjustment of alcoholic patients following clinic treatment, the Division of Alcoholic Rehabilitation undertook a follow-up of a sample of patients who have been treated in each of the six rehabilitation clinics supported by the Division.

The study was completed at the end of June and a report on the findings will be available this fall. Purpose of the study is to learn more about the subsequent adjustment that alcoholics have been able to make following treatment within clinics.

The need for expanded community alcoholic rehabilitation clinics and services, the need for the increased use of general hospitals for treatment for the acutely ill alcoholic, and the development of greater interest in the medical and allied professions in the treatment of alcoholism, were emphasized in a recent meeting of the Division's Advisory Committee.

* * *

Dr. Hamlet C. Pulley has been named to the newly created position of assistant director of the State Department of Public Health. In addition to other responsibilities, Dr. Pulley will direct the activities of four of the department's divisions—Preventive Medical Services, Environmental Sanitation, Community Health Services, and Dental Health.

The directorship is the highest civil service position in the department, under the director and the deputy director, Dr. Harold M. Erickson.

The new assistant director joined the department in 1957 as a medical officer, and last year was named one of the department's three regional medical coordinators, serving the central part of the state. He was chief assistant health officer in the Los Angeles City Health Department for 14 years before joining this department.

Dr. Pulley graduated from the St. Louis University School of Medicine in 1937, and received his master's degree in public health in 1940 from Johns Hopkins School of Medicine. He is a diplomate of the American Board of Preventive Medicine and is a member of the Alameda-Contra Costa County Medical Society, the California Medical Association and the American Medical Association.

Dr. Lester Breslow, chief of the Bureau of Chronic Diseases since 1946, has been named as chief of the Division of Preventive Medical Services, a post which has been vacant since Dr. Robert Dyar was named chief of the department's new Division of Research.

Bureaus under his direction include Hospitals, Maternal and Child Health, Acute Communicable Diseases, Nutrition, Crippled Children Services, Occupational Health, Mental Health Services, and Chronic Diseases.

Dr. Breslow graduated from the University of Minnesota School of Medicine in 1938, and received his master's degree in public health from that university in 1941. Before his service with this department he was a district health officer for the Minnesota Department of Health and a preventive medicine officer in the U. S. Army. In 1952 he was director of study of the President's Commission on Health Needs of the Nation.

* * *

More than 7,700 dogs in Imperial County—about 97 per cent of the total—have been vaccinated against rabies since the start of the current disease outbreak last fall. In addition, 4,259 dogs have been destroyed in the stray dog control program.

* * *

Two local health projects totalling $41,600 for community research and demonstration have been approved by the State Health Department's Advisory Committee.

One is a $24,000 study by the Madera County Health Department on the use of nurse obstetric assistants in a rural county hospital maternity and newborn program.

This study proposes to demonstrate that in a rural area in California with limited medical care available, well-trained nurse obstetric assistants under medical supervision can provide prenatal supervision, labor and delivery care, and postpartal and newborn care for the mothers and newborn babies eligible for county hospital care. Through this means the project would seek to improve the quality of care available and result in a lowering of the maternal and perinatal morbidity and mortality.

A $17,600 study into institutional care of the aged and chronically ill was awarded the Los Angeles City Health Department. Purpose of the project is to gain added understanding of the problems facing the community so that care of the aged and ill per-

sons may be improved through an educational program for management and staff of institutions.

Among eight projects for which approval was given for continuation was the Modoc County home nursing service, the only one of its kind in rural California; a home care research and demonstration project; demonstration of restorative services in nursing homes, and medical care of Old Age Security recipients in Santa Cruz County.

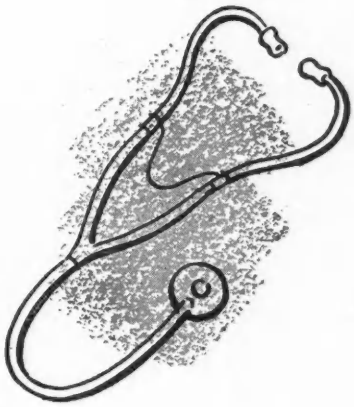
The enthusiastic participation of local health departments has already resulted in establishing new knowledge suitable for immediate application to local community health problems. Several demonstration projects have successfully pointed the way for providing necessary health services in the community, and following their demonstration, the budgetary support for these services has been assumed on a local level.

Interested persons may be placed on the mailing list to receive the *California Alcoholism Review and Treatment Digest* by writing to the Division of Alcoholic Rehabilitation, this department, 2151 Berkeley Way, Berkeley.

This bi-monthly publication of the department specializes in news of treatment, research, and educational activities in alcoholic rehabilitation, particularly in California.

* * *

Twelve children died in 1959 of suffocation directly connected with plastic film products. Ten of these deaths occurred in Los Angeles County. Five additional child deaths due to this cause are known to have occurred in 1958 and two in 1960. In addition, 28 suicides involving plastic film products are known to have occurred in California last year.



WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

A Message to the Doctors

RECENTLY A PHYSICIAN said to me, "What does your Auxiliary do besides meet once a month?"

If one physician should ask, there must also be others who are unaware of their Auxiliary's activities. Since the answer cannot be given quickly, and in small space, I shall try here to tell the story of the Auxiliary's work piecemeal through the year.

The medical profession is dedicated to providing the highest quality of medical and health care. As your Auxiliary, our job is to do exactly what our name implies—to help, to supplement. In addition we are active in community service. We carry out a program suggested by the American Medical Association and its state and county components.

During the 31 years of our existence we have proven to be an important ally. We have accepted equal responsibilities with our husbands in community service and have extended our activities to include those of the medical associations as times and events dictated.

We are active in legislation, working constantly with the California Medical Association. This is accomplished through our State Chairman of Legislation, who in turn contacts her individual county legislative chairmen, who then become active at the "grass roots" level. This of course cannot be accomplished unless we ourselves keep informed about the many problems confronting the medical profession and the solutions offered by the profession. Therefore, this committee works hand in hand with the legislative committees of the county societies, the California Medical Association and the American Medical Association, receiving its working information from the most authoritative sources.

We diligently work for the American Medical Education Foundation, realizing how extremely important it is to maintain medical schooling in the hands of the medical profession. In order to do the job well, the chairman studies the findings of the American Medical Education Foundation with regard to the needs of the medical schools so that the membership will be an informed one.

Nurse Recruitment, now called Para-Medical Careers, remains high on the list of our projects. With the continued shortage of nurses, we must continue to concentrate on recruitment. The majority of our counties have either Nurse Scholarship funds or Student Loan funds or both. Thousands of dollars are raised by our 34 county Auxiliaries to be used for scholarships or loans for girls and boys interested in nursing and the allied fields of medicine. Future Nurse Clubs are mushrooming throughout the state. At last report there were some 250 Future Nurse Clubs in California.

The Woman's Auxiliary is very active in behalf of Physicians' Benevolence. This is a service to our *own*—and what more need be said!

I have touched lightly on just a few of our important committees pertaining to health, and during the year I will elaborate on them in future articles.

To be active in committees of the kind here mentioned is one form of community service. There is another—the giving of volunteer service within each community. You will find physicians' wives active in almost every health organization. The public recognize them as an "informed source." As such they can serve both the community and the medical profession. You will find our Auxiliary members giving thousands of hours in volunteer work to the Cancer Society, Tuberculosis Association, Heart Association, Crippled Children's Society, hospital guilds and many another such organizations. We do this not only because we believe in individual responsibility and in group responsibility but because we wish to help medicine to remain a free enterprise.

Nearly all our members belong to other clubs and organizations in their communities and keep on the alert to correct any misinformation or misunderstanding regarding the medical profession. Most of our county auxiliaries have "Guest Day," to which representatives of other clubs in their communities are invited. At these meetings the auxiliaries usually have a speaker who talks on some phase of medicine. This proves helpful to many leaders among the diversified groups and also helps to establish friendly relationships with them, which is good public relations.

What we do "besides meet once a month" is helpful enough to the medical profession to warrant you to encourage all nonmember wives to participate in the Auxiliary and its activities. We need *your* assistance in order to give *our* maximum service to *your* community needs.

MRS. SAMUEL GENDEL
President, Woman's Auxiliary to the California Medical Association

NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

The Robert T. Legge Memorial Fund has been established at the East Bay Rehabilitation Center in recognition of the many outstanding contributions to the field of industrial medicine made by Dr. Legge, who last March died of a heart attack while attending Charter Day ceremonies of the University of California, Berkeley.

Deeply interested in industrial medicine, Dr. Legge was one of the founders of the Western Industrial Medical Association, which in 1959 honored him through a contribution to the East Bay Rehabilitation Center.

In 1951 the highest honor in industrial medicine—the William S. Knudsen Award—was bestowed upon him.

In creating the Memorial Fund, Mr. Thomas McLaren, chairman of the board of the Rehabilitation Center, said, "Dr. Legge's foresight in championing occupational medicine in this area has been emphasized by the increasing importance given this phase of medicine by industry, schools, professions and public health groups."

* * *

Dr. John R. Schafer, Jr., an intern at Highland-Alameda County Hospital in Oakland, recently was awarded one of the 20 annual Mead Johnson Awards for Graduate Training in General Practice. The award consists of $1,000 to be used to help defray the expenses of a year's training in a general practice residency. The scholarship award program was established in 1952 by the American Academy of General Practice. Dr. Claude G. Furbush, president of the Alameda-Contra Costa Chapter of the Academy of General Practice, presented the certificate of award. Funds for the Academy's Graduate training awards program are provided by Mead Johnson & Company.

LOS ANGELES

Dr. Franklin D. Murphy, formerly Chancellor of the University of Kansas and for a time the dean of the medical School there, has assumed his duties as chancellor of the University of California, Los Angeles. He will be officially inaugurated September 23 to succeed Vern O. Knudsen, who has reached the academic retirement age.

SAN FRANCISCO

The thirteenth annual meeting of the **American Association of Blood Banks** will be held in San Francisco, August 21 through 26. The program will cover scientific, administrative and technical aspects of blood banking. A half-day session on the preservation of erythrocytes is expected to be particularly outstanding. Three guests from London, P. L. Mollison, M.D., A. E. Mourant, M.D., and Ruth Sanger, Ph.D., will participate.

GENERAL

The Commission on Cancer of the California Medical Association has revised the **Minimum Standards for Consultative Tumor Boards** in California. Requests for copies of the Standards or information should be directed to the Medical Director, Commission on Cancer, 693 Sutter Street, San Francisco 2, California. The commission called attention particularly to an item in the new Standards providing for the designation of a member of the Section on General Practice as a consultant member to the Tumor Board for the purpose of increasing the liaison between the Board and General Practice Section.

* * *

Twenty-three drugs and six combinations of drugs, primarily for the relief of suffering, have been added to the list of those that the California Department of Social Welfare Medical Care trust fund will pay for when prescribed for persons eligible under the **old age security and needy blind program.**

Most of the drugs will be paid for regardless of the condition for which they are given, but a few are on a restricted list to be paid for only when prescribed in certain specified disease states:

The lists* of restricted and unrestricted drugs, effective July 1, 1960, follow:

Part I—Unrestricted by Diagnosis

A. SINGLE DRUGS:

Acetazoleamide (Diamox)
Aminophylline (All USP forms)
Aminopterin sodium
Atropine sulfate USP

Belladonna tincture USP
Bishydroxycoumarin USP (Dicumarol)
Busulfan (Myleran)

Camphorated opium tincture USP (Paregoric)
Carbachol (Carcholin)
Chiniofon
Chlorambucil (Leukeran)
Chlormerodrin (Neohydrin)
Chlorothiazide (Diuril)
Chlorpropamide (Diabinese)
Chlortetracycline USP (any salt form allowed) (Aureomycin) (limit No. 16 caps. or tabs; per Rx)
Codeine phosphate or sulfate USP
Colchicine USP

Demethylchlortetracycline (any salt form allowed) (Declomycin) (limit No. 16 caps. or tabs; per Rx)
Desoxycorticosterone acetate injection USP
Digilanid
Digitalis USP
Digitoxin USP
Digoxin USP (Lanoxin)
Dihydrotachysterol (Hytakerol)
Diphenylhydantoin sodium USP (Dilantin Sodium)

Emetine hydrochloride USP
Ephedrine sulfate USP
Epinephrine USP
Erythromycin USP (any salt form allowed) (Erythrocin, Ilosone, Llotycin) (limit No. 16 caps. or tabs; per Rx)

Ferrous sulfate USP

Gitalin (Gitaligin)
Glyceryl trinitrate USP (nitroglycerin)

Hydralazine hydrochloride (Apresoline Hydrochloride)
Hydrochlorothiazide (Esidrix, Hydrodiuril, Oretic)

Insulin (all forms)
Isoflurophate (Floropryl)
Isoproterenol hydrochloride USP (Aludrine, Isuprel)

*Reprints of this list, printed on a single page for easy reference, are available without charge from CALIFORNIA MEDICINE, 693 Sutter Street, San Francisco 2.

Mecamylamine (Inversine)
Mechlorethamine hydrochloride NF (Mustargen Hydrochloride)
Meperidine hydrochloride USP (Demerol Hydrochloride)
Meralluride injection USP (Mercuhydrin Sodium)
Mercaptopurine (Purinethol)

Neostigmine bromide USP

Oxygen USP
Oxytetracycline USP (any salt form allowed) (Terramycin) (limit No. 16 caps. or tabs; per Rx)

Penicillin-G USP (oral) (limit No. 20 caps. or tabs; per Rx)
Penicillin-V (oral) (any salt form allowed) (limit No. 20 caps. or tabs; per Rx)
Pentobarbital sodium USP
Phenobarbital USP
Physostigmine salicylate USP
Pilocarpine (Hydrochloride, Nitrate) USP
Posterior pituitary USP
Primaquine phosphate USP
Probenecid (Benemid)
Procainamide hydrochloride USP (Pronestyl Hydrochloride)
Procaine penicillin G suspension USP (injection)

Quinidine sulfate USP

Reserpine USP (not payable if prescribed by any brand name)

Sodium radio-chromate USP
Sodium radio-iodide USP
Sodium radio-phosphate USP
Streptomycin USP
Sulfisoxazole USP (Gantrisin)

Tetanus antitoxin USP
Tetanus toxoid USP
Tetracycline USP (oral) (any salt form allowed) (limit No. 16 caps. or tabs; per Rx)
Thyroid USP
Tolbutamide (Orinase)
Triethylenethiophosphoramide (ThioTEPA)
Trihexyphenidyl hydrochloride (Artane)
Trisulfapyrimidines USP (triple sulfas)

B. Permitted Combinations:

Aminophylline and phenobarbital
Aminophylline, ephedrine and pentobarbital
Aminophylline, ephedrine and phenobarbital

Codeine and aspirin
Codeine, aspirin, phenacetin and caffeine

Ephedrine and pentobarbital
Ephedrine and phenobarbital

The inclusion of a drug in a combination does not permit its prescription as a single drug for payment from the Medical Care Fund, unless it is otherwise listed in Group A.

Combinations of drugs in a prescription other than those listed in Part I, B, are not payable from the Medical Care Fund.

The presence of therapeutically inert pharmaceutical adjuncts (e.g., binders, fillers, vehicles, buffers, diluents, preservatives and excipients) does not constitute a combination.

Part II†—Restricted by Specific Diagnosis

1. Addison's disease, disseminated lupus erythematosus, pemphigus, nephrosis, hemolytic anemias and thrombocytopenia
   Cortisone USP
   Prednisolone
   Prednisone

†When the drugs listed in this section are prescribed for the specific diagnosis shown, the practitioner shall indicate this by writing "Code 1" on the prescription Form (MC-165). If this is not on the form the recipient is responsible for payment.

2. Cancer (including lymphomas and leukemias)
   Cortisone USP
   Diethylstilbestrol USP
   Methyltestosterone USP
   Prednisolone
   Prednisone
   Testosterone USP (all forms)
3. Malaria
   Chloroquine phosphate USP
4. Pernicious anemia and/or combined sclerosis
   Cyanocobalamin USP (B_{12}) intramuscular injectable only
   Liver extract USP intramuscular injectable only
5. Urinary tract infections resistant to sulfonamide therapy or in the case of a patient sensitive to sulfonamides
   Nitrofurantoin (Furadantin)

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Clinical Traineeships — Anesthesia, Dermatology and Pediatric Cardiology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, $150.00; four weeks, $250.00.

General Pediatrics. Sunday through Wednesday, July 17 through 20. Lake Arrowhead, University of California Residential Conference Center. Sixteen hours. Fee: $137.50 (including room and meals).

Advance Seminar in Internal Medicine. Wednesday through Sunday, July 20 through 24. University of California Residential Conference Center, Lake Arrowhead. Eighteen hours. Fee: $150.00 (including room and meals).

Dermatologic Therapy. Monday and Tuesday, July 25 and 26. Twelve hours. Fee: $40.00.

Advanced Seminars in Dermatology (for Dermatologists). Wednesday through Sunday, July 27 through 31. University of California Residential Conference Center, Lake Arrowhead. Fourteen and one-half hours. Fee: $150.00 (including room and meals).

Special Problems in Anesthesia. Wednesday, Thursday and Friday, August 3, 4 and 5. Eighteen hours. Fee: $60.00.

Arthritis and Rheumatism. Wednesday and Thursday, August 17 and 18. Twelve hours. Fee: $15.00 (includes lunch).

Obstetrical Procedures and Complications. Friday and Saturday, August 26 and 27. Fourteen hours. Fee: $50.00 (includes two luncheons).

Fetal Electrocardiography. Sunday, August 28. Seven hours. Fee: $20.00.

Below-Knee Prosthetics. Monday through Friday, September 19 through 23. Enrollment limited to 20. Fee: $125.00.

Below-Knee Prosthetics. Monday through Friday, October 31 through November 4. Enrollment limited to 20. Fee: $125.00.

For Ancillary Personnel

Cardiac Workshop: Nursing Care of the Cardiac Patient Who Undergoes Surgical Intervention. Monday through Friday, July 25 through August 12. Seventy-five hours. Fee: $90.00.

Dietary Cost Control with Emphasis on Records and Accounting Techniques. Tuesday, September 6 through January 31. Forty-five hours. Fee: $35.00.

Beginning Medical Terminology. Tuesdays, September 13 through January 17. Forty-five hours. Fee: $35.00.

Advanced Medical Terminology. Wednesdays, September 14 through January 18. Forty-five hours. Fee: $35.00.

Advanced Seminars in Biological Sciences: Immunochemistry. Wednesdays, September 14 through October 19. Twelve hours: Fee: $35.00.

Development and Principles of Industrial Nursing. Mondays, September 19 through January 30. Forty-five hours. Fee: $35.00.

Industrial Health. Tuesdays, September 20 through December 6. Thirty hours. Fee: $25.00.

Mortuary Science. Tuesdays, September 20 through December 6. Twenty-four hours. Fee: $35.00.

Counseling the Handicapped Child and His Parents. Wednesdays, September 21 through December 7. Twenty-four hours. Fee: $35.00.

Elementary Human Anatomy and Physiology. Thursdays, September 22 through February 9. Forty-five hours. Fee: $40.00.

Photography in Medical Practice and Research. Thursdays, September 22 through December 15. Twenty-four hours. Fee: $35.00.

Two-Week Rehabilitation Nursing Workshop. Monday through Friday, October 17 through 28. Eighty hours. Fee: $30.00.

Methods in Toxicology. Wednesdays, October 26 through December 21. Sixteen hours. Fee: $30.00.

Contact: Thomas H. Sternberg, M.D., assistant dean for Continuing Medical Education, U.C.L.A. Medical Center, Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Obstetrics and Gynecology. Thursday to Saturday, September 15 to 17. Twenty-one hours. Fee: $50.00.

Radiological Physics (32 Tuesday evenings). September 20 through April 24. For residents. Fee: $100.00.

Advances in Surgical Anatomy, Normal Anatomy and Histology of the Eye. Thursday through Saturday, September 22 through 24. Twenty-one hours.*

*Fees to be announced.

Internal Medicine. Wednesday through Sunday, September 28 through October 2. Thirty-five hours.*

Surgery, Franklin Hospital. Saturday and Sunday, October 8 and 9. Fourteen hours.*

Dermatology. Friday and Saturday. October 14 and 15. Fourteen hours.*

Advances in Ophthalmic and General Pathology. Thursday through Saturday, November 3 through 5. Twenty-one hours.*

Symposium on Ear-Nose-Throat Problems in Children, Children's Hospital. Saturday, November 5. Seven hours. Fee: $12.50.

Psychologic Problems of Medical Practice. Friday through Sunday, November 11 through 13. Twenty-one hours.*

A Course in Ophthalmology. Thursday through Saturday, December 1 through 3. Twenty-one hours. Fee: $12.50.

Symposium on Eye Problems in Children, Children's Hospital. Saturday, January 14. Seven hours. Fee: $12.50.

Symposium on Perinatal Problems, Children's Hospital. Saturday, March 11. Seven hours. Fee: $12.50.

Diagnostic Radiology. Wednesday through Monday, March 15 through 20. Forty-eight hours.*

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: $350.00.

For Ancillary Personnel

Cancer Nursing. Wednesday through Friday, August 10 through 12.*

Nursing and People. Monday through Friday, August 15 through 26. Fee: $30.00.

Continuing Education Conference Series. Tuesday through Friday, September 6 through 16.*

Administration of Nursing Care. Tuesdays, September 13 through December 13. Fee: $45.00.

Nutritional Aspects of Nursing Care. September 21 through November 9.*

Evening Lectures in Nutrition. Mondays, October 10 through November 14.*

Evening Lectures in Laboratory Technology. Tuesdays, October 18 through November 22.*

Contact: Seymour M. Farber, M.D., assistant dean, Department of Continuing Medical Education, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

PRESBYTERIAN MEDICAL CENTER, SAN FRANCISCO (Formerly San Francisco-Stanford Hospital)

Eye Conference. Each Monday morning.

Didactic Course in Ophthalmology. Monday and Wednesday, 7 to 8:30 p.m.

Postgraduate Conference, Retinal Detachment. Wednesday, Thursday and Friday, September 14, 15, 16.

Contact: Arthur Selzer, M.D., program committee chairman, Presbyterian Medical Center, Clay and Webster Sts., San Francisco 15.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians: $30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Hawaii Course: The USC School of Medicine will offer the Third Postgraduate Refresher Course to be held in Honolulu and on board the S.S. *Lurline* from August 4 to August 20, 1960. (As a time and money saver, round trip air travel is also possible August 4 to August 14.)

Contact: Phil R. Manning, M.D., associate dean and director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

CLINICAL TRAINEESHIPS available in all clinical departments by arrangement with the Postgraduate Division and the chairman of the department or departments involved. Eighty hours minimum. Fee: As arranged.

Diseases of the Chest: Two and four-week Traineeships in cooperation with the Los Angeles County Hospital. Dates as arranged.

Anesthesia. Monday through Friday. Dates as arranged. Six months. Fee: $350.

JOINT MANIPULATION. Monday through Friday, 8:00 to 12:00, dates to be arranged. Twenty hours. Fee: $75.00.

Alumni Postgraduate Convention Refresher Courses, March 12 and 13, on the campus of the College of Medical Evangelists at White Memorial Hospital.

For information contact: G. E. Norwood, M.D., assistant dean and chairman, Division of Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

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AUDIO-DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., offers (on a subscription basis) a series of six different hour-long tape recordings covering general practice, surgery, internal medicine, obstetrics and gynecology, pediatrics and anesthesiology. Designed to keep physicians posted on what is new and important in their respective fields, these programs survey current national and international literature of interest and contain selected highlights of on-the-spot recordings of national scientific meetings, panel discussions, symposia, and individual lectures. Audio-Digest Internal Medicine will shortly be available on long-play discs, requiring only a 33 1/3 rpm phonograph to utilize the service. For information contact Mr. Claron L. Oakley, Editor, 1919 Wilshire Blvd., Los Angeles 57, HUbbard 3-3451.

Medical Dates Bulletin

AUGUST MEETINGS

GERONTOLOGICAL SOCIETY, INC., Mark Hopkins Hotel, San Francisco. August 7 through 12. *Contact:* Mrs. Marjorie Adler, administrative secretary, 660 S. Kingshighway Blvd., St. Louis 10.

RENO SURGICAL SOCIETY 10th Annual Conference. August 18, 19 and 20. The Mapes Hotel, Reno. *Contact:* Harry B. Gilbert, M.D., 275 Hill Street, Reno, Nevada.

AMERICAN ASSOCIATION OF BLOOD BANKS, Jack Tar Hotel, San Francisco. August 21 through 26. *Contact:* John B. Alsever, M.D., secretary, 1211 W. Washington St., Phoenix, Arizona.

AMERICAN PHYSIOLOGICAL SOCIETY. August 22 through 26. Stanford University, 300 Pasteur Drive, Palo Alto. *Contact:* Mr. Ray G. Daggs, executive secretary, 9650 Wisconsin Ave., Washington 14, D. C.

AMERICAN HOSPITAL ASSOCIATION, Civic Auditorium, San Francisco. August 27 through September 1. *Contact:* Mr. Maurice J. Norby, assistant director, 18 E. Division St., Chicago.

SEPTEMBER MEETINGS

PACIFIC DERMATOLOGIC ASSOCIATION INC. 12th Annual Meeting. Empress Hotel, Victoria, British Columbia. September 2 through 4. *Contact:* Edward Ringrose, M.D., secretary, 2636 Telegraph Ave., Berkeley.

OREGON STATE MEDICAL SOCIETY, Portland. September 7 through 9. *Contact:* Mr. Roscoe K. Miller, executive secretary, 1115 S. W. Taylor St., Portland 5, Oregon.

NEVADA STATE MEDICAL ASSOCIATION Annual Meeting. September 7 through 10. Stardust Hotel, Las Vegas. *Contact:* Nelson B. Neff, executive secretary, P. O. Box 2790, Reno, Nevada.

POSTGRADUATE ASSEMBLY OF SAINT JOHN'S HOSPITAL. September 8 through 10. 9 a.m. to 4 p.m., St. John's Hospital, Santa Monica. *Contact:* John C. Eagan, M.D., director, 1328 22nd St., Santa Monica.

SANTA BARBARA COUNTY HEART ASSOCIATION Physicians Symposium. September 17, 9:00 a.m. to 5:00 p.m., Biltmore Hotel, Santa Barbara. *Contact:* E. J. Hannon, executive director, 18 La Arcada Court, Santa Barbara.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, Yosemite. September 23, 24 and 25. *Contact:* Barbara E. Oulton, executive secretary, 350 Post St., San Francisco 8.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Convention. September 25 through 28. Olympic Hotel, Seattle, Washington. *Contact:* R. W. Neill, executive secretary, 1309 7th Avenue, Seattle, Washington.

SOUTHERN CALIFORNIA SOCIETY OF GASTROENTEROLOGY Panel Discussion "Ulcerative Colitis." September 27. Los Angeles County Medical Association. *Contact:* William E. Molle, M.D., secretary-treasurer, 6221 Wilshire Blvd., Los Angeles 48.

PAN-PACIFIC SURGICAL ASSOCIATION 8th Intensive Surgical Congress, embracing all Surgical Specialties. September 27 through October 5. Honolulu, Hawaii. *Contact:* F. J. Pinkerton, M.D., director general, Suite 230, Alexander Young Building, Honolulu 13.

OCTOBER MEETINGS

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGERY. Statler Hotel, Los Angeles, October 2 through 7. *Contact:* Thomas R. Broadbent, M.D., secretary, 508 E. S. Temple, Salt Lake City.

SAN DIEGO COUNTY HEART ASSOCIATION 10th Annual Symposium on Heart Disease. October 3 and 4. El Cortez Hotel. *Contact:* O. Martin Avison, 3545 Fourth Avenue, San Diego 3.

AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA. Coronado Hotel, San Diego. October 5 through 7. *Contact:* William T. Fitts, Jr., M.D., secretary, 3400 Spruce St., Philadelphia 4.

LOS ANGELES COUNTY HEART ASSOCIATION 30th Annual Professional Symposium on Cardiovascular Diseases. October 5 and 6. Beverly Hilton Hotel, Beverly Hills. *Contact:* Los Angeles County Heart Association, 2405 W. 8th St., Los Angeles 57.

SAN FRANCISCO HEART ASSOCIATION 30th Annual Postgraduate Symposium on Heart Disease. October 5 through 7. St. Francis Hotel, San Francisco. *Contact:* Mr. Lawrence I. Kramer, Jr., executive director, 259 Geary St., San Francisco 2.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION combined Meeting with 4th Western Industrial Health Conference. October 7 through 9. Jack Tar Hotel, San Francisco. *Contact:* Verne G. Ghormley, M.D., president, 3032 Tulare Street, Fresno 21.

AMERICAN COLLEGE OF SURGEONS, 46th Annual Clinical Congress, San Francisco. October 10 to 14. *Contact:* William E. Adams, M.D., secretary, 40 E. Erie St., Chicago 11.

AMERICAN CANCER SOCIETY CALIFORNIA DIVISION Annual Meeting. October 13 through 15. Villa Hotel, San Mateo. *Contact:* Jane N. Lounsbury, assistant director, Field Services, 467 O'Farrell, San Francisco.

KAISER FOUNDATION HOSPITALS IN NORTHERN CALIFORNIA Fourth Annual Symposium on Human Genetics. October 14 and 15. Fairmont Hotel, San Francisco. *Contact:* Martin A. Shearn, M.D., Director of Medical Education, 280 West MacArthur Blvd., Oakland.

CALIFORNIA ACADEMY OF GENERAL PRACTICE 12th Annual Scientific Assembly. October 16 through 19. Masonic Memorial Temple, San Francisco. *Contact:* William W. Rogers, executive secretary, 461 Market St., San Francisco 5.

WESTERN ORTHOPEDIC ASSOCIATION Annual Convention. October 22 through 27. Hotel Del Coronado, Coronado. *Contact:* Mrs. Vi Mathieson, executive secretary, 354 21st St., Oakland 12.

ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS. Jack Tar Hotel, San Francisco. October 26 through 28. *Contact:* A. C. Offutt, M.D., secretary-treasurer, 1330 W. Michigan Street, Indianapolis 7.

ST. JUDE HOSPITAL—FULLERTON 2nd Annual Postgraduate Assembly. October 27 and 28. St. Jude Hospital. *Contact:* B. L. Tesman, M.D., chairman, St. Jude Hospital, Fullerton.

AMERICAN SCHOOL HEALTH ASSOCIATION, San Francisco. October 30 through November 4. *Contact:* A. O. DeWeese, M.D., executive secretary, 515 E. Main St., Kent, Ohio.

AMERICAN PUBLIC HEALTH ASSOCIATION, San Francisco. October 31 through November 4. *Contact:* Berwyn F. Mattison, M.D., executive director, 1790 Broadway, New York 19.

NOVEMBER MEETINGS

SAN DIEGO COUNTY GENERAL HOSPITAL 14th Annual Postgraduate Assembly. Wednesday and Thursday, November 2 and 3. San Diego County General Hospital, North End of Front Street, San Diego. *Contact:* Frank H. Carter, M.D., chairman, 2001 Fourth Avenue, San Diego 1.

AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE. Biltmore Hotel, Los Angeles. November 2 through 5. *Contact:* Rolla B. Hill, M.D., executive secretary, 3575 St. Gaudens Rd., Miami 33, Florida.

CALIFORNIA SANATORIUM ASSOCIATION Annual Business, Clinical and Administrative Session. November 12. Olive View Hospital, Olive View, Calif. *Contact:* J. P. Myles Black, M.D., Olive View Hospital, Olive View, Calif.

CALIFORNIA CONFERENCE OF LOCAL HEALTH OFFICERS Fall Meeting, November 15 and 16. State Department of Public Health, 2151 Berkeley Way, Berkeley 4. *Contact:* State Department of Public Health, Berkeley.

AMERICAN COLLEGE OF PHYSICIANS Annual Basic Science Lecture—Professor Melvin Calvin—"Origin of Life." November 18, 6:30 p.m., California Club, Los Angeles. *Contact:* George C. Griffith, M.D., Governor, A.C.P., 1136 W. 6th St., Los Angeles 17.

SOUTHERN CALIFORNIA SOCIETY OF GASTROENTEROLOGY Panel Discussion "Enzymology and G.I. Diagnosis." November 22. Los Angeles County Medical Association. *Contact:* William E. Molle, M.D., secretary-treasurer, 6221 Wilshire Blvd., Los Angeles 48.

1961 MEETINGS

AMERICAN COLLEGE OF PHYSICIANS 8th Annual Meeting of Southern California Region. February 5, 6 and 7. Biltmore Hotel, Santa Barbara. *Contact:* George C. Griffith, M.D., Governor, A.C.P., 1136 W. 6th St., Los Angeles 17.

SOUTHERN CALIFORNIA SOCIETY OF GASTROENTEROLOGY. "Problems and Pitfalls in Differential Diagnosis of Jaundice"—Leon Schiff, M.D., February 27, Los Angeles County Medical Association. *Contact:* William E. Molle, M.D., secretary-treasurer, 6221 Wilshire Blvd., Los Angeles 48.

SOUTHWESTERN PEDIATRIC SOCIETY Postgraduate Lecture Series. March 7 and 8, Statler Hotel, Los Angeles. *Contact:* Harry O. Ryan, M.D., secretary, 194 N. El Molino, Pasadena.

COLLEGE OF MEDICAL EVANGELISTS Annual Alumni Postgraduate Convention. Scientific Assembly, Ambassador Hotel, March 14, 15 and 16. *Contact:* F. Harriman Jones, M.D., general chairman, College of Medical Evangelists, 316 North Bailey Street, Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION Annual Meeting, Ambassador Hotel, Los Angeles. April 30 through May 3. *Contact:* John Hunton, executive secretary, 693 Sutter Street, San Francisco 2; or Ed Clancy, director of public relations, 2975 Wilshire Blvd., Los Angeles 5.

THE PHYSICIAN'S *Bookshelf*

THE HUMAN SPINE IN HEALTH AND DISEASE—Anatomicopathologic Studies—George Schmorl, M.D., Clinicoradiologic Aspects—Herbert Junghanns, M.D. The First American Edition, Translated and Edited by Stefan P. Wilk, M. D. and Lowell S. Goin, M.D. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y. 1959. 285 pages, $21.00.

This beautifully illustrated monograph, long a classic on the Continent and often quoted in this country, has been made available in an English translation. First published in Germany in 1932, the work summarizes Professor Schmorl's investigation into the anatomic, pathologic, and radiologic aspects of 10,000 spines studied at the Dresden Institute of Pathology between 1925 and 1932.

Professor Schmorl's work, originally undertaken to unravel the mysteries of scoliosis, has helped form the groundwork of much of our understanding of intervertebral disc disease, and was intended by the author to be the first detailed and systematic study of spine disease. An associate at the Institute, Dr. Junghanns, is credited with presentation of the radiologic aspects of the study and has been responsible for the text revisions following Professor Schmorl's death.

This edition presents by means of diagrams, clinical radiographs, and photographs of dissected specimens a description and classification of spine disease affecting bones, joints and intervertebral discs. The material is organized into nine chapters, covering anatomy, embryology, congenital anomalies, metabolic bone disease, degenerative arthritis, degenerative and traumatic intervertebral disc disease, spondylolisthesis and infection, as well as the deformities of kyphosis, scoliosis and lordosis. The bibliography is extensive, and presented in the European manner of giving credit to the author but not to the publication quoted, which will make the checking of references more time-consuming.

Many of the ideas, which may have seemed new in 1932, have become so integral a part of our thinking now that little in the text will appear new or startling. The concept of the life cycle of degenerative changes in the intervertebral disc leading to prolapse is thoroughly explored, and the infrequency of single trauma as a cause of herniation is stressed. The author's insistence that we be thoroughly alert to the dangers of overlooking multiple injuries to the spine conforms with our recognition of the spine as a functional unit in trauma and of the possibility that a fracture of one segment may be accompanied by other fractures or disc injuries far removed from the primary injury. Schmorl was fully aware of the medical-legal implications in spine diseases and his comments on this subject will be of interest to both medical and lay persons interested in this phase of orthopedics.

The book itself presents an attractive format and is easily read, but it is the remarkable clarity of the photographs of the carefully dissected specimens and of the radiographs that give the book its value. The illustrations in the chapters on embryology, congenital anomalies, degenerative arthritis and intervertebral disc disease are especially to be commended.

Where the volume is concerned primarily with the description of anatomic and pathologic change, the written text is clear and still valid, but often where digression is made into theories of etiology some of the explanations will seem incomplete and out-of-date, especially in those chapters dealing with metabolic bone disease, kyphosis, scoliosis, lordosis and infection.

For example, when trying to explain breakthrough of disc tissue into vertebral bodies, Schmorl states, "We believe that the presence of nuclear fluid has an osteoclastic action. . . ." Still later, in discussing the cause of scoliosis he states, "Pathologic alteration of the vertebral body (e.g. lateral wedging, with rotation) is among the causes of scoliosis." Both of these statements may be viewed by many modern readers with skepticism.

On the other hand, those sections of the book devoted to the pathology of intervertebral disc disease, congenital anomalies and degenerative arthritis, present a thoughtful and complete baseline study of the natural history of these diseases.

The book, because of the illustrations it contains and because of its classic description of degenerative disc disease, is highly recommended as a reference text to medical students, resident physicians in training, and to orthopedists interested in reviewing both intervertebral disc disease and spine embryology.

EDWARD H. WILSON, M.D.

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DIAGNOSIS AND TREATMENT OF TUMORS OF THE CHEST—Sponsored by the American College of Chest Physicians. Edited by David M. Spain, M.D. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1960. 371 pages, $14.75.

This book deals in a comprehensive fashion with all of the common tumors of the chest and briefly discusses most of the rare lesions therein. In addition to emphasizing proven methods of therapy (surgery and radiation), most of the recent refinements in diagnostic technique are included.

As might be expected with so great a number of contributing authors, there is some disagreement regarding pathological entities (e.g., pulmonary adenomatosis vs. bronchiolar carcinoma) and modalities of therapy (e.g., surgery vs. radiation in upper and middle third esophageal carcinoma).

The illustrations are good (particularly the demonstrations of intracardiac tumors by angiocardiography) and the text easily readable. Radiation therapy is adequately discussed, though undue emphasis is placed on the ephemeral value of supervoltage radiations. References are excellent. The book is recommended to physicians interested in diseases of the chest.

JOHN H. HEALD, M.D.

ANTITHROMBOTIC THERAPY—Paul W. Boyles, M.D., Instructor in Medicine, University of Miami School of Medicine, Jackson Memorial Hospital, Miami, Florida; and Director, Coagulation Research Laboratory, Miami Heart Institute, Miami Beach, Florida. (Modern Medical Monographs, 20—Editor in Chief: Irving S. Wright, M.D.; Consulting Editor: Richard H. Orr, M.D.). Grune & Stratton, 381 Fourth Avenue, New York 16, N. Y., 1959. 131 pages, $5.00.

This concise monograph contains a tremendous amount of information which is not apparent from the title. There are chapters on "The Mechanism of Blood Coagulation," "Clotting Tests," and the "Technic of Blood Coagulation" as well as chapters on the "Clinical Use of Antithrombotic Agents," and "Long Term Anticoagulant Therapy." In fact, the area encompassed may be too broad, which may be partly responsible for some errors, particularly in the sections on the coagulation mechanism. There are a few comments regarding that mechanism which are no longer tenable in view of recent experimental evidence. An example of this is the statement that SPCA is necessary for the activation of intrinsic thromboplastin.

The sections dealing with coagulation studies are good but unfortunately do not apply specifically to the control of anticoagulant therapy. No mention is made of the "thrombotest" recently (Owren, P.A.: Thrombotest: A New Method for Controlling Anticoagulant Therapy, Lancet, 2:754, 1959) introduced which has shown great promise and may become the test of choice in following patients receiving anticoagulants.

The chapters on anticoagulant therapy are adequate in that they briefly discuss the problems encountered in the anticoagulant management of myocardial infarction (both short and long term treatment), thrombophlebitis, embolism, and cerebral vascular disease. There is unfortunately no mention made of Polybrene,® the new anti-heparin agent.

Almost one third of the monograph is devoted to fibrinolytic therapy and a discussion of the various agents used. This is an unfortunate and excessive emphasis on an aspect of antithrombotic therapy in which there is as yet no satisfactory drug. Those in use are either ineffective, or dangerous, or both.

Finally, the bibliography is extensive but in the few instances in which it was checked, fails to document some of the statements made in the text.

This little book is of value in that it brings together in one volume most of the information necessary for the application of anticoagulant therapy.

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OPEN REDUCTION OF COMMON FRACTURES—Oscar P. Hampton, Jr., M.D., F.A.C.S., Assistant Professor, Clinical Orthopedic Surgery, Washington University School of Medicine, St. Louis; and William T. Fitts, Jr., M.D., F.A.C.S., Professor of Surgery, Schools of Medicine, University of Pennsylvania, Philadelphia; Chief, Surgical Division II, Hospital of the University of Pennsylvania. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1959. 212 pages, $8.75.

This 212 page comprehensive review on the Open Reduction of Common Fractures will prove of great value to surgeons interested in the operative care and repair of broken bones. However, I sincerely doubt that it will be of any help to the practitioner who treats occasional fractures. Very little attention is paid to the minute details which must be observed in carrying out a specific operative procedure. Thus, some previous experience in clinical orthopedics or traumatology at a teaching center is necessary in order to interpret and differentiate the approaches and selection of material. The authors show no prejudice against any one procedure and no preference toward any other. They present a good selection of operative approaches to fractures that are best treated by open reduction. For this reason it makes excellent reading for the surgeon skilled in these various procedures. In addition, at the end of each section is presented a subdivision on "pitfalls and precautions" which is of great value to anyone interested in fracture treatment. These represent pragmatic suggestions on how to avoid trouble for both the patient and the surgeon. Finally it should be noted that the author's style is one of frugality with words. A tremendous amount of literary material has been condensed between the covers of this modern surgical monograph and as such it makes for very easy reading while the point in question is being clarified.

JOHN F. COWAN, M.D.

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BIOPSY MANUAL—James D. Hardy, M.D., Professor and Chairman of the Department of Surgery, University of Mississippi School of Medicine; James C. Griffin, Jr., M.D., Assistant Instructor in Surgery, Administrative Chief Resident in Surgery, National Cancer Institute Trainee, University of Mississippi School of Medicine, and Jorge A. Rodriguez, M.D., Assistant Professor of Surgical Anatomy, The Dept. of Surgery, University of Mississippi School of Medicine. W. B. Saunders Company, Philadelphia, 1959. 150 pages, $6.50.

This is a very simple book which tells one how to do simple surgical techniques that are commonly employed by interns and residents for the establishment of surgical diagnoses. Biopsies of all areas of the body are discussed and illustrated, ranging from punch biopsies of the skin to needle biopsies of the liver to renal biopsies to excisions of nodules in the lung.

It is nice to have this material gathered together in one place. One could essentially learn all one needs from the book by browsing through it once and looking at the illustrations. I think it is the type of a book that should be available in the hospital library, but one that one wouldn't care to own particularly for his own library collection. It is far too simple and Dr. Hardy has essentially included this material in other books which he has written which are far more valuable for an individual to own.

This simple book, then, is recommended for staff libraries, but not for individual ownership.

VICTOR RICHARDS, M.D.

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ACUTE PERICARDITIS—David H. Spodick, M.D., Senior Physician and Chief, Cardiographic Laboratory of the Medical Services, Lemuel Shattuck Hospital; Clinical Survey Director, Department of Cardiology, The Boston Evening Clinic; Associate Fellow of the American College of Cardiology; Clinical Instructor in Medicine, Tufts University School of Medicine. Grune & Stratton, New York, 1959. 182 pages, $6.50.

This book is an excellent clinical account of all varieties of pericarditis and their treatment. The compilation of material for this subject is of considerable value, because it is a subject which has been relatively neglected in cardiac literature. Spodick's coverage is primarily for the clinician and he discusses common and uncommon varieties of pericarditis, their clinical diagnosis and treatment. There is very little on modern hemodynamic or angiocardiographic studies, nor is the subject of the possible role of pericarditis and myocarditis as a precursor of idiopathic hypertrophy discussed in any detail. With these reservations, the book can be highly recommended as an excellent appraisal of the problem which will be of primary value to the practicing physician.

MAURICE SOKOLOW, M.D.

CIGARETTE HABIT, THE: A Scientific Cure—Arthur King. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, N. Y., 1959. 96 pages, $2.00.

The author of this small monograph divides smokers into four general groups:

1. The light smoker. One who smokes up to 15 cigarettes a day, or smokes a pipe or tobacco. He states he is "fully convinced that smoking is probably good for these people, in terms of pleasure, relaxation and sociability."

2. The medium smoker. One who averages about a pack a day around the calendar.

3. The heavy smoker. One who smokes from 20 to 30 cigarettes a day, who often shows marked irritability when he discontinues smoking, and who is only a short step from the next classification!

4. The cigarette addict. This man smokes as much or more than the heavy smoker, but smokes in a different fashion, inhaling deeply or compulsively and apparently getting some extra pleasure out of the habit.

He estimates that about 5 per cent of smokers fall in the first class, 45 in the second, 40 in the third and perhaps 10 in the last. He then outlines a program of discontinuance, aimed chiefly at the addict. This amounts to a series of more or less elaborate steps, many of them timed to a calendar, and most amounting to self-hypnosis. Given the proper type of character to start with, this reviewer sees no reason why the steps should not be successful. They involve the securing of some caffeine tablets, some antihistamine capsules, some throat lozenges, some dextro-amphetamine sulfate tablets and for the real addict some phenobarbital pills. There is an hourly time schedule for the 21 days of "decompression."

The author discusses the hypothesis that cigarettes are a causal factor in lung cancer. Since so many heavy smokers do *not* get lung cancer he believes that there is some other important factor involved, apparently constitutional. That he is prejudiced on behalf of the weed is indicated by the final quote from James Russell Lowell:

> *"A lone man's companion, a bachelor's friend, a hungry man's food, a sad man's cordial, a wakeful man's sleep, and a chilly man's fire . . . there's no herb like unto it under the canopy of heaven."*

L. HENRY GARLAND, M.B.

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CLINICAL OBSTETRICS AND GYNECOLOGY—Vol. 2 No. 4—A Quarterly Book Series—Symposium on Cesarean Section edited by Edwin J. De Costa, M.D., and Symposium on Advances in Gynecologic Surgery edited by S. B. Gusberg, M.D. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 49 East 33rd Street, New York 16, N. Y., 1959. 1228 pages. $18.00 a year for four consecutive numbers issued quarterly (subscription only).

This is the December 1959 issue of the quarterly Clinical Obstetrics and Gynecology. Its subjects are cesarean section, ably edited by Edwin J. De Costa, and advances in gynecologic surgery, edited by S. B. Gusberg in an equally satisfactory manner.

De Costa himself writes of indications for cesarean section. He emphasizes the relative safety of the operation today and expounds upon the improvement in general maternal mortality which has resulted from its use in such conditions as placenta previa, premature separation of the placenta, dystocia, and many others. The most frequent indication in 1959 was previous cesarean section. The overall incidence in modern obstetrical practice varies from 2 to 10 per cent with an average of about 5 per cent. The mortality is approximately 0.2 per cent, though figures as low as 0.08 per cent have been reported.

Transabdominal techniques of cesarean section are described by H. L. Riva. The classical upper segment operation and the usual lower segment operations with transverse or longitudinal uterine incisions are depicted. His techniques include far more suturing than is customary in my experience, including retention sutures, but the basic principles of the operations are well described.

Ralph Reis discusses cesarean hysterectomy noting the passing of the original indication for this procedure, infection. He feels that it is justified in certain cases in which myomata are present or very defective scars of previous sections, uncontrollable hemorrhage following cesarean section, carcinoma-in-situ of the cervix and placenta accreta. He further discusses cesarean hysterectomy for the purpose of sterilization and decries its use as a routine because of the increased risk of this operation over tubal ligation and the occasional unhappy psychological results of losing the uterus. He approves of this method of sterilization in selected cases.

Edward G. Waters describes his supravesical extraperitoneal cesarean section and gives figures which attest the safety of the operation in many hundreds of cases.

Greenhill writes of anesthesia in cesarean section, including inhalation, spinal, and local infiltration techniques. He expresses his preference for local and documents its virtues.

Maternal mortality and morbidity following cesarean section are discussed by Richard D. Bryant. He, too, emphasizes the relative safety of the operation. His review indicates about 30 deaths per ten thousand sections. The leading causes of death are "miscellaneous, hemorrhage, infection, embolism and anesthesia." The danger of rupture of a section scar in a subsequent pregnancy is considered. He feels that repeat section is justified.

H. Close Hesseltine analyzes the material at the Chicago Lying-In Hospital to answer the question "Does cesarean section offer special benefit to the fetus for survival?" in the negative except when done for a specific condition which threatens the life of the fetus. In the absence of such indication he found the fetal mortality to be twice as high as in similar patients who had their babies vaginally.

D. Frank Kaltreider and W. F. Krone discuss delivery following cesarean section and point out the factors involved in the selection of cases and the safeguards which must be erected in conducting such labors. They express a preference for repeat cesarean section.

The final section deals with postmortem cesarean section and is written by Henry P. Lattuada. He suggests that it should always be done when the pregnancy has progressed to the 28th week and not more than 20 minutes has passed since the mother expired.

On the whole this is an excellent symposium and gives a good review of current opinion and results.

The second section of the book begins with operations for congenital anomalies of the uterus by Howard Jones of Baltimore. Aplasia of the Müllerian ducts, or its overt clinical manifestation, congenital absence of the vagina is described. The operation which Jones favors for correction is that of placing a mould covered by split thickness skin graft in a space created artificially between bladder and rectum. Excellent results have been obtained. Also described are rudimentary uterine horn, blind uterine horn and the various degrees of double uterus. The Strassmann operation for removal of a uterine septum and creation of a single chambered uterus is described. The problems of the double vagina are related.

Mastroianni and Buxton describe operations for infertility in the female. In order of frequency these were tubal plastic procedures, the lysis of pelvic adhesions, wedge resection of polycystic ovaries associated with amenorrhea and defeminization, the removal of myomata, uterine curettage, tracheloplasty and hymnenotomy. The etiology of tubal disease, its diagnosis, and techniques of repair are described. The

use of polyethylene splints is described. Figures regarding the prospect of success are given.

Operations for habitual abortion are described by Abraham F. Lash. His particular emphasis is upon repair of the gaping incompetent cervix in the nonpregnant state. The Shirodkar procedure is described also.

M. Edward Davis discusses gynecologic operations at cesarean section. Tubal ligation is discussed and advised at the third or fourth cesarean section. In his hands a modified Pomeroy technique has reduced the percentage of failure to 0.25. The removal of a myoma at cesarean section is decried unless the tumor is pedunculated; or if the tumors are multiple and large and the patient has completed her desired child bearing, hysterectomy is advocated. Ideally ovarian tumors are removed at the fourth month of pregnancy but should they be present at section they can easily be removed at this time. Routine appendectomy at cesarean section is condemned as hazardous. Cesarean hysterectomy is discussed in some detail and excellent results are reported. The substitution of this operation for tubal ligation for sterilization is gaining in favor and the author espouses it.

Roger Scott discusses pelvic pain in association with external endometriosis, describing the various mechanisms of production. In addition he evaluates the use of hormones and of conservative surgery for pain relief. He also expresses the belief that hysterectomy per se may contribute to the relief of pain.

Vaginoplastic operations are described in general terms by D. A. D'Esopo and J. H. Pratt discusses the Heaney technique for vaginal hysterectomy. Good illustrations are provided.

Radiotherapeutic operations are described by James A. Corscaden. Techniques are described for cancer of the vagina, cancer of the cervix and cancer of the endometrium (as a preoperative measure).

Langdon Parsons describes pelvic exenteration giving valuable information regarding the selection of candidates for such surgery, contraindications, preoperative preparation and laboratory studies, and anesthesia. He gives a brief description of his technique. Various urinary diversion procedures are described. In his group of 120 operations there was a primary operative mortality rate of 22.5 per cent.

The last chapter by Frederick Hofmeister contains detailed descriptions of the various elements of the modern gynecologic examination in ordinary office practice.

In the reviewer's opinion this is a very useful little volume bringing before us as it does authoritative opinions and descriptions of the important aspects of cesarean section and advances in gynecologic surgery.

DANIEL G. MORTON, M.D.

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PEDIATRIC ANESTHESIOLOGY—Second Edition—M. Digby Leigh, M.D., Associate Professor of Surgery, USC School of Medicine, and Director, Department of Anesthesia, Children's Hospital of Los Angeles; and M. Kathleen Belton, M.D., Assistant Professor of Surgery (anesthesia), USC School of Medicine, and Attending Anesthesiologist, Children's Hospital of Los Angeles; in collaboration with George B. Lewis, Jr., M.D., and Edward E. Scott, M.D., Children's Hospital of Los Angeles. The Macmillan Company, 60 Fifth Avenue, New York 11, N. Y., 1960. 461 pages, $12.00.

"Pediatric Anesthesiology," Second Edition, is a completely new book by the authors of the first edition published in 1948 under the title Pediatric Anesthesia.

Dr. Wesley Bourne in the foreword of the original edition stated "Leigh and Belton have given wings to practical thought in anesthesia and have brought for the first time into its serene and soothing atmosphere the strongest element of Aristotelian simplicity."

At first, the reader of the second edition will wonder if this element of simplicity has not been somewhat lost in this new and far more comprehensive volume. A more careful inspection will soon reveal that this is not the case. The second edition has been, in fact, greatly enriched by such considerations as pre-anesthetic evaluation of the circulatory, digestive, nervous and urogenital systems.

The reviewer feels that most anesthetists who have read and enjoyed the first edition will do well to skip over the first eleven chapters comprising Section I and begin with Chapter 12 of Section II, which is devoted to anesthetics, techniques and equipment. If he will then continue through Section III (preanesthetics medication and preparation) and Section IV (anesthetic management of surgical procedures) reserving Section I for reference, he will soon discover that the writers have in no way lost their ability to write with "Aristotelian simplicity."

It is gratifying to see hypothermia and body temperature control discussed not only as an adjunct to surgery and anesthesia but as an important form of therapy with extensive clinical application. On the other hand, it is somewhat disappointing not to find a more exhaustive consideration of the problems incident to automatic ventilation of the lungs of small infants.

Pediatric Anesthesiology reflects the unmatched experience of the authors in this field. The text has grown from a universally praised monograph to a complete book which can be highly recommended to all those who have anything to do with the anesthesia care of infants and children. Pediatric Anesthesiology should find wide acceptance not only by anesthesiologists but by pediatricians as well.

WILLIAM B. NEFF, M.D.

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NEWER VIRUS DISEASES—Clinical Differentiation of Acute Respiratory Infections— John M. Adams, M.D., Ph.D., Professor and Chairman, Department of Pediatrics, School of Medicine, University of California at Los Angeles. The Macmillan Company, 60 Fifth Avenue, New York 11, 1960. 292 pages, $5.75.

Most physicians are constantly faced with problems of respiratory infections which they know to be usually viral in origin. Knowing that techniques of virology have advanced rapidly, most physicians wish to be brought up to date on newly recognized viruses and the clinical entities they may be associated with. This volume appears to have originated in the author's sincere desire to disseminate some fundamental knowledge of virology together with some basic facts on the diagnosis and management of respiratory diseases. It is difficult to assess how well he has succeeded. Difficulties arise because the book intends to be "clinically useful" on the one hand, and up-to-date in virology on the other. Not infrequently these two viewpoints cannot readily be brought together. For the sake of brevity fairly sweeping generalizations are occasionally presented to suit the impatience of the practicing physician. Conversely some chapters contain brief summaries of recent publications without much interpretation—perhaps directed at the virologist?

For those physicians who snatch up the book because it promises "clinical differentiation of acute respiratory infections" the entirely proper conclusion is reached on page 19 that in a majority of viral respiratory diseases *clinical* differentiation is *not* possible because "the same clinical syndrome may be caused by many different agents."

In spite of these conflicts some physicians will find this book a useful general review of some viruses associated with respiratory tract disease, together with a brief description of some sound medical practices in the management of respiratory illness. Several regrettable errors were found in references to published literature.

STORY OF DISSECTION, THE—Jack Kevorkian, M.D., Philosophical Library, Inc., 15 East 40th Street, New York 16, N. Y., 1959. 80 pages, 16 illustrations, $3.75.

This slender volume purports to tell the story from the earliest times to the present of the use of the human body for both anatomical and pathological studies. All this is compressed into ten brief chapters which follow a conventional chronological order, beginning with Antiquity, passing through Classical Greece, Hellenistic Alexandria, Rome and Byzantium to the Middle Ages, the Renaissance and the Baroque Period, to terminate with the Nineteenth and Twentieth centuries. The purpose of the volume, according to the author in his introduction, is to reveal the fluctuation of attitudes towards dissection and to reveal how dissection "affected the subsequent growth of the healing art."

At its most elementary level historical writing must possess a creative element controlled by the iron discipline of the historical method. The present work fulfills neither of these fundamental requirements. In the first place it is based almost exclusively on secondary sources, many of which would appear to have been misinterpreted. In the second place it is full of erroneous statements and exhibits a lack of caution which betrays the tyro.

The first chapter opens with the astonishing observation: "Our insight into the works of the earliest times is totally dependent upon information transmitted in the medical writings of Homer and of the early Roman period, notably those of Cornelius Celsus and Claudius Galen. Original records, if they were left at all, have not survived the rigors of history." Dozens of records exist which antedate Homer and which originated in the interval between Homer and the early Roman period. What is to be said of such gaucheries which speak of "Mycenean and Minoan cultures of Homer's time," for the world which the Homeric poets pretend to describe is one which had disappeared hundreds of years before and the Dark Ages of the Dorian invasion had intervened. Then not only is the Egyptian chronology used somewhat antiquated but the author naively accepts the view that "several medical books were written by Menes, founder of the First Dynasty in 3400 B.C.," and further, dismisses all modern Egyptological scholarship by stating that "none of its [Ancient Egypt's] contributions to medicine was of permanent or influential nature," apparently unaware of the source of many of the Hippocratic aphorisms, of Cnidian medical thought, of Pythagorean opinions, of the Dioscoridean materia medica, and of numerous other Greek works, to say nothing of the word for word translations of Egyptian writings surviving to the Renaissance. In the difficult Greek period, the author becomes greatly entangled. Apart from the unintelligible statement that "A materialistic outlook dominated the thought of the early great philosopher-scientists such as Anaxagoras (500-428 B.C.) and Empedocles (504-443 B.C.) and undoubtedly conditioned exaggerated reverence for corpses of the earlier period," we are told that the "Dogmatists emphasized the doctrines of Hippocrates" on page 18, and on page 20 that "The Dogmatic School of Hellenism was an adherent of Aristotelian teachings and probably a direct consequence of it." Then Herophilos and Erasistratos are categorically accused of human vivisection although the practice was protested by "many of their illustrious contemporaries" and by "later historians such as Galen and Tertullian." This charge has been made against many other anatomists at varying times. In the case of the Alexandrians, Herophilos and Erasistratos, no contemporary evidence is known. The charge was made by Celsus and the imperious, intractable, anti-pagan Tertullian hundreds of years later. Although Galen was educated at Alexandria, and even wrote a diatribe against Erasistratos yet, contrary to the statement of the author, his works are entirely silent on the subject of human vivisection. This very silence has made the charge highly suspect. However, what is one to think of an author who is not only in gross historical error, but justifies the practice of human vivisection with "It was the noteworthy consequence of earnest contemplation and sincere conviction, the very serious means to a very noble end." In the Roman Period Soranus is reported to have "occasionally dissected a woman's body," which is at variance with the grave doubts expressed by O. Temkin in his superb study of this writer. Likewise, without any documented evidence, the author credits Galen with having dissected "no more than two or three human bodies after having left Alexandria," despite the fact that no serious student of Galen has ever been able to prove unequivocally that Galen dissected even a single body. The further statement that Galen was "Cognizant of the anatomic differences between man and animals," apart from surface superficialities, cannot be supported, or is open to gravest doubts.

It is possible to go on documenting factual error after error which mar almost every page, but it is too discouraging, especially when we find Sylvius (Jacques du Bois) acting in the year of his birth, 1478, as the first prosector at the University of Paris, and that Fallopius and Eustachius "paved the way for the great work of Andreas Vesalius," although they worked and wrote many years after, not before, Vesalius. Enough has been said to point to the total unreliability of this book.

J. B. deC. M. Saunders, M.D.

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OLDER PATIENT, THE—By Twenty-One Authors—Edited by Wingate M. Johnson, M.D., Chief of Staff, Private Diagnostic Clinic, and Professor Emeritus of Clinical Medicine, Bowman Gray School of Medicine of Wake Forest College. Paul B. Hoeber, Inc., Medical Division of Harper & Brothers, 49 East 33rd Street, New York 16, N. Y., 1960. 589 pages, $14.50.

The geriatric patient requires of the doctor a special interest and orientation if he is to have the best attention. The doctor must not only know the subject but he must find a challenge in the care of the aged if he is to do good work.

Old people are likely to have a monotonous congeries of disabilities—cataract, lack of teeth, bronchitis, emphysema, cardiac weakness, hernia, prostatism, varicose veins, etc.—the importance of which must be sorted out and put in balance by the doctor. This book helps to do just that, and while there is necessarily an overlap between old age medicine and other medicine the emphasis here is plainly on geriatrics. The writers of the various chapters have kept this clearly in mind and the result is a fine treatise which no one interested in old patients can afford to be without.

Arthur L. Bloomfield, M.D.

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WOMEN AND FATIGUE—A Woman Doctor's Answer—Dr. Marion Hilliard. Doubleday & Company, Inc., 575 Madison Ave., New York 22, N. Y., 1960. 175 pages, $2.95.

This book is written in simple form and language for the lay public, particularly nervous, tired women.

It deals with some of the real and fancied problems of the adolescent, the married woman, the spinster and the menopausal soul. The explanations and Dr. Hilliard's advice are given in general terms, much of it inspirational. Acceptance of hereditary limitations, metabolic changes, and environmental stress, and adaptation to them, are presented as a practical solution to fatigue.

The book is rather superficial and perhaps more suitable for serialization in a women's home magazine or some Spanish count's column.

M. E. Mottram, M.D.